

IN THE DISTRICT OF THE UNITED STATES OF AMERICA
FOR THE SOUTHERN DISTRICT OF ILLINOIS

ADELAIDA ANDERSON and JEFF ANDERSON,

Plaintiffs,

v.

Case No. 19-cv-800-SPM

RAYMOND CORPORATION,

Defendant.

Transcript of Jury Trial - Volume VI
November 8, 2021

Proceedings held in person before
the Honorable **STEPHEN P. McGLYNN**,
United States District Judge Presiding

East Saint Louis, Illinois

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TRANSCRIPT OF PROCEEDINGS

(Proceedings commenced at 9:01 a.m.)

THE COURT: Good morning, all. Have a seat, please.

Counsel, call your next witness.

(Witness sworn.)

THE WITNESS: Timothy Rhoades, R-h-o-a-d-e-s.

THE WITNESS: May I take my mask off?

MR. LoCOCO: May I inquire, Your Honor?

MR. LoCOCO: Thank you.

DIRECT EXAMINATION

Q Good morning.

A Good morning.

Q Please tell the jury your name.

1 A Timothy Rhoades.

2 Q And where do you live?

3 A Ann Arbor, Michigan.

4 Q And for whom do you work?

5 A I work for Applied Safety and Ergonomics, which for about the
6 past year has been one of the companies owned by Rimkus, a
7 consulting group out of Texas.

8 Q And what's your current position there?

9 A I'm a vice president of the human factors practice at Applied
10 Safety and Ergonomics.

11 Q Could you make sure the mike is close to your mouth so we
12 can --

13 A Sure.

14 Q -- hear you? Could you tell the jury about your educational
15 background?

16 A Yes. I have a bachelor's degree in industrial and operations
17 engineering from the University of Michigan. I have a
18 master's degree from the same department and also a
19 doctorate. The bachelor's degree being classical industrial
20 engineering, the master degree going into more safety
21 engineering, and the doctorate dealing with -- well, it was
22 taking a look at movement behaviors of auto haul drivers as
23 they moved about equipment and what they could do and how
24 they would use it in terms of how they would climb on
25 equipment, how they would reach, so it had a lot to do with

1 physical ergonomics about that job.

2 Q You mentioned ergonomics. Dr. Rhoades, what is ergonomics?

3 A Ergonomics, which is also called human factors engineering,
4 takes a look at the capabilities and limitations of people as
5 they interact with equipment and their work environment.

6 Q Have you been a professor?

7 A I have been an adjunct at the University of Michigan.

8 Q In Ann Arbor?

9 A In Ann Arbor. It was for about 20 years.

10 Q Okay. What sort of courses did you teach when you were at
11 Michigan?

12 A Well, as a graduate student, I was the teaching assistant for
13 Don Chaffin's course in occupational biomechanics. As an
14 adjunct, I taught two courses in safety management.

15 Q All right. Has your scholarly work included testing and
16 research?

17 A Yes.

18 Q Can you tell the jury about some of that, a couple of
19 examples?

20 A Well, an early example had to do with developing -- this is
21 older technology going back to the '80s, the -- a portable
22 transportable force plate measuring system so that you could
23 evaluate the forces that people placed on a product as they
24 were climbing around the equipment, for example, was the
25 application. But you could also use it for slip-and-fall

1 research.

2 Other research that I've done has to do with
3 more the cognitive side, about how people think and evaluate
4 products. And that would have to do with personal
5 watercraft. We help that industry develop uniform labels.
6 So if you ride a personal watercraft, you'll have similar
7 labeling if it's a Yamaha or a Kawasaki, for example.

8 Q Now when you say "labels," you mean safety decals?

9 A Yes.

10 Q All right. Have you published over the years?

11 A Yes, I have.

12 Q What sorts of things have you published?

13 A Most of the work that I've published has been in the area of
14 instructions and warnings development, but there also have
15 been some work about slips and falls.

16 Q All right. Dr. Rhoades, as part of your professional work,
17 have you been retained to advise on various design and design
18 issues?

19 A Yes.

20 Q All right. Has that happened within the forklift industry?

21 A Yes.

22 Q All right. Has that happened relative to the Raymond
23 Model 4250?

24 A Yes.

25 Q All right. Are you a member of any professional societies or

1 organizations?

2 A Yes.

3 Q Can you tell the jury about that?

4 A Well, a couple of the more prominent ones would be the Human
5 Factors and Ergonomics Society and the Society of Automotive
6 Engineers would probably be the two that are most prominent.

7 Q All right. Are you a licensed professional engineer?

8 A Yes, I am. I'm licensed and registered in the state of
9 Michigan.

10 Q Have you been a member of any safety committees?

11 A Yes, I have.

12 Q Can you tell us which ones?

13 A Well, for ten years, I was on a forklift subcommittee
14 designated as B56.11. And I also served -- I think it was
15 for ten years on the American Society of Safety Engineers,
16 their standards development committee that oversaw the
17 development of many so-called national consensus standards.
18 And currently, I'm a member of the ANSI Z535 committee, which
19 has to do with safety signs and labels.

20 Q All right. I noticed looking at your CV, your curriculum
21 vitae, that you're a CPE; is that right?

22 A Yes.

23 Q What is a CPE?

24 A That's a certified professional ergonomist.

25 Q Ergonomist? Again, that's your focus, ergonomics?

1 A Right.

2 Q Doctor, do you have training, education, and/or experience
3 with respect to warnings and decals?

4 A Yes.

5 Q And training materials?

6 A Yes.

7 Q All right. Have you been certified to operate the
8 Model 4250?

9 A Yes, I have.

10 Q Do you do consulting work like this on matters that are in
11 litigation?

12 A Yes, I do.

13 Q Prior to this case, had you and I worked on any litigation
14 matters in the past?

15 A No.

16 Q Does your company charge for your time?

17 A Yes, it does.

18 Q How much per hour?

19 A 450 per hour.

20 Q All right. Do you have an estimate, a recollection of when I
21 called you to ask for assistance in this case?

22 A My best recollection was mid November of last year I believe
23 it was.

24 Q All right. Prior to that call, had you done any other work
25 for Raymond?

1 A Yes.

2 Q Was it related to a lawsuit?

3 A No, it was not related to a lawsuit.

4 Q All right. What did that work involve? Tell us what
5 happened.

6 A So I was contacted by Raymond in August of last year, and
7 they were interested in having an ergonomic assessment done
8 of their 4200 series forklifts. And so we prepared a
9 proposal and we worked in conjunction with another company,
10 Exponent, which had special expertise in remote data
11 acquisition. And so we prepared a proposal, and during
12 basically the month of September was data collection, October
13 was analysis, and I wrote up a report. I think it's dated --
14 I think it's November 9th of 2020.

15 Q Who called you from Raymond?

16 A Bob Kerila.

17 Q Is he an engineer there?

18 A Yes, I believe he's their chief engineer.

19 Q All right. So I want to talk about this study that you did
20 for Raymond last August, September, October. This first
21 slide, is this the cover page to your report?

22 A Yes, it is.

23 Q All right. This ergonomic assessment of Raymond standup
24 counterbalance lift trucks, how many phases were there in
25 your analysis?

1 A Within the study itself, the assessment, there were two basic
2 phases.

3 Q What were those two phases?

4 A Well, I called it an initial assessment and then a
5 naturalistic study.

6 Q All right. I want to talk about the initial assessment.
7 What were you -- what was your goal in the initial
8 assessment?

9 A Okay. Well, this particular slide shows the overall
10 objectives, and that was to do an ergonomics assessment of
11 the 400 series. And we were taking a look at, does it
12 accommodate a range of operator anthropometries, a small
13 person, a large person. And does it allow for posture
14 changes as you operate the vehicle. And again, we did it in
15 two stages, the initial ergonomics assessment and then a
16 naturalistic study of forklift operation.

17 Q You used this term "anthropometries." What's
18 anthropometries, or what's anthropometrics? I can't even say
19 it.

20 A Sure. So anthropometric measures are measurements of people.
21 If you have a baby and there's a growth chart, that's based
22 on anthropometric data so that at a particular age, some -- a
23 certain proportion of kids will be 20 pounds. And so there's
24 all sorts of data like this that is measured and available to
25 engineers to help design equipment so it -- and human factors

1 engineers use this to help make sure equipment fits people
2 well. That's anthropometric data that you're using. It's
3 measurements about people.

4 Q So just tell us generally how you structured the first part
5 here, the initial ergonomics assessment. What did you do?

6 A Well, the first thing we did is we took forklift training so
7 that we would be certified to operate the forklift, and then
8 operate the forklift myself so that you would have some
9 exposure to the forklift firsthand. Then you take
10 measurements of the forklift, certain critical measurements
11 about how a person would interact with the forklift, and you
12 compare that to anthropometric data about people to see if
13 there's a good fit. So that was the basic procedure that was
14 used, and then there are various observations from that.

15 Q Before we get further into both of these phases, I want to
16 ask you about this next slide, "Direction and Movement
17 Terms." Tell us why you put this slide into your direct
18 examination.

19 A Sure. Well, this was a slide that I had in a slide
20 presentation when I was giving a talk about this to
21 engineers. And it's important that we're talking the same
22 language in terms of orientation. So what you see on the
23 right is a description of the operator orientation. And so
24 if the operator is facing the forks, we call that 0 degrees.
25 And then if the operator's facing -- if the operator were to

1 face the other direction, that's 180 degrees. And if he's
2 facing just between those, that would be 90 degrees. Okay?
3 And then as far as the right-hand side, is the side that has
4 the back pad -- I'm sorry, there's a right on the -- over
5 here, Frank. I can do it.

6 Q You can draw. There you go.

7 A That's the right side. And then we can -- the other side is
8 the left side. If you're going in the direction of the
9 forks, then you're traveling either forward or forks leading.
10 If you're going the opposite direction, you're going rearward
11 or forks trailing.

12 Q All right. So we're talking now about your initial
13 ergonomics assessment. You told the jury you got operator
14 training. You examined a 4250 forklift. What did you do
15 next?

16 A Well, then I used various anthropometric data that I explain
17 in slides, but there are a couple SAE standards that take a
18 look at the size of people that use equipment in work places.
19 One of them has to do with reach capability, to reach
20 controls. The other one just has to do with height, weight,
21 the size of your feet, just all sorts of anthropometric
22 measures that may be available. NHANES, that's a national
23 database. That's where you get the data about how kids grow.
24 And they also have adult data, and it's a nice dataset
25 because it gets reviewed very systematically. It's a very

1 large dataset. So as the population changes, the NHANES data
2 is good.

3 I referred to MIL-STD 1472, which is the human
4 factors guide to equipment design that's used by the
5 military. And I also looked at a book, *The Measure of Man*
6 *and Woman*. It's currently published by a guy name Tilley
7 from 2002, but this book has been around for a real long
8 time. *The Measure of Man* was first published and developed
9 by Henry Dreyfuss and Associates, who was a real important
10 person in the world of ergonomics back in the '70s.

11 Q All right. Then was part of what you did in the initial
12 ergonomics assessment was to take some photographs?

13 A Yes. I took a couple of photographs in parts to orient
14 people for presentation such as this to -- so that you can
15 kind of get oriented to the vehicle, and then I'm going to
16 give you some of the results. So what we see here is the
17 perspective view of the operator's compartment on the left,
18 and you can kind of get a general orientation to it. And
19 also a rear view, and this would be important for sort of
20 vertical measurements about how a person interacts with the
21 operator compartment.

22 Q So based on your initial ergonomics assessment, did you draw
23 some conclusions?

24 A Yes, I did.

25 Q And are those listed here on this next slide?

1 A Some of those conclusions are on this slide, and then it goes
2 on --

3 Q So tell us about that.

4 A In this slide, what we're seeing is -- so remember that
5 figure where you had the man standing there on the right-hand
6 side? What we know is the floor to overhead guard clearance
7 accommodates beyond the 95th percentile male. And what that
8 concept is, when we talk about the 95th percentile male, that
9 means the only people that are taller would be 5 percent of
10 males would be taller than that. And so we often look at if
11 it -- does it accommodate the 5th percentile female, all the
12 way up to the 95th percentile male. Sometimes we go even
13 further. We'll go to even the 2.5 percent female all the way
14 up to the 97.5th percentile male.

15 This one -- I was looking at the data for the
16 95th percentile male, and it clearly has sufficient room for
17 a tall man to be in the vehicle. Then I took a look at the
18 vertical placement of the back pad, and it accommodates the
19 5th percentile female to the 95th percentile male. And what
20 you need is you need a back -- the back pad has to go low
21 enough so that a short woman can put her body against it
22 well.

23 Q How is that determined?

24 A Well, the figure that I used -- may I stand? So what I
25 looked at was there is anthropometric data for the crotch

1 height of a 5th percentile woman, and that's 27 --
2 28.7 inches. And the back pad goes low enough so that we're
3 confident that the woman can lean back against the back pad
4 and she'll hit the pad and not the curb at the bottom or not
5 the metal below the back pad.

6 Similarly, for the 95th percentile male, here
7 we're looking at the hip pivot height of 40 inches for the
8 tall male, and so the tall male can also lean against the
9 back pad. So these are a couple examples of using
10 anthropometric data to make sure that we have a good fit with
11 respect to the back pad. Similarly --

12 Q I got to ask questions.

13 A Sure.

14 Q Did you look at the heights of the controls to see if they
15 would accommodate people?

16 A Yes. Similarly --

17 Q How'd you do that?

18 A I did as well. So the height of the steering tiller is
19 40 inches above the floor of the operator's compartment, and
20 the height of the multifunction control is 42 inches. And so
21 the question is, are those reasonable? Well, when you look
22 at elbow height, to take a look at that -- and the elbow
23 height for the 5th percentile woman is 37 inches and for the
24 95th percentile man, it's 45.6 inches. And so both of these
25 controls are moderate in terms of their height with respect

1 to these dimensions, so that's reasonable as well. And the
2 data sources, the SAE standards, the NHANES and MIL-STDs are
3 all listed below the ones that I was using for this
4 evaluation.

5 Q So what are we looking at here with this top view of the
6 compartment?

7 A So this -- we lost it.

8 Q Yeah, it does that periodically. There it is. Okay. So I
9 think we were talking about observations from this top view
10 of the compartment.

11 A Correct. So this is just to get you oriented to the top
12 view, sort of a straight-down top view of this. So then you
13 have -- you're oriented to the results that are related to
14 reach.

15 Q All right. So you -- so based on that, you formed an
16 opinion -- these opinions that we see on this next screen.
17 Tell us about that.

18 A I'm sorry, could we go back to the --

19 Q Sure.

20 A Okay. What I --

21 THE COURT: I'm sorry. He gets to ask the
22 question. Are you -- are you rejecting his question --

23 THE WITNESS: No, no I'm not.

24 THE COURT: So ask the question.

25 BY MR. LoCOCO:

1 Q Let me withdraw that question and go back to this slide here
2 and ask you what you were -- wanted to point out from this
3 slide.

4 A Sure. There are two -- in addition to where the controls
5 are, this view gives you a view of the -- where your feet
6 are, the floor of the compartment, and also the back pad.
7 And notice that the back pad is a little wider at the top
8 than it is at the bottom in terms of its functional width.

9 Q Why is that important?

10 A Well, the next slide helps explain that.

11 Q All right. Explain why the width up higher is more
12 important.

13 A All right. Well, so the functional width of the back pad is
14 about 16 inches toward the top and 14 inches toward the
15 bottom. And that's really nice, because the shorter person,
16 the 5th percentile woman, has a seated hip width of
17 12.8 inches, and that compares well with that 14 inches at
18 the bottom, versus the taller man who has a hip width of
19 15.8 inches. So the taller person gets a little bit more
20 functional width. So that's a good attribute of the contour
21 of that back pad.

22 Q Now you said "seated hip width." The operator in this 4250
23 is standing. Why are you using seated hip width data?

24 A So the operator is leaning, so you're going to have a little
25 bit of soft tissue movement when you lean, just as you do

1 when you sit, but it's more extensive when you sit. The
2 problem is is when you're using anthropometric data, there
3 isn't anthropometric data for every contingency. So I looked
4 at this data as being essentially the best available data for
5 this particular part of the evaluation.

6 Q What did you determine regarding the floor surface, the
7 surface area?

8 A Well, I took a look at the 95th percentile shoe length, so
9 this is the length of a foot with a shoe, and that's
10 12.6 inches. So only 5 percent of male shoes are longer than
11 12.6 inches. And I looked at the width, 4.6 inches. Only
12 5 percent of male footwear is wider than 4.6 inches. And you
13 compare that to the surface area of the floor and there's
14 plenty of room to get both feet on the floor.

15 Q So then you told us that you looked at the steering tiller
16 and multifunction control locations. Tell us about that part
17 of the analysis.

18 A Correct. And so I looked at the SAE Standard 898 from 1994
19 about what they call the zone of comfortable reach. And so
20 things are more comfortable to reach if it's directly in
21 front of you, and you can also reach it pretty well if it's a
22 little bit to the side. So what we have here is a standard
23 that was originally developed for seated controls and reach.
24 And when you compare these -- this reach envelope to what the
25 operator has to reach with the tiller control and the

1 multifunction control, you're in a good zone for the
2 placement of those. It's not the same as being seated in a
3 tractor, and so it's not the same as being seated, but this
4 is again the best data. When you're standing, it tends to be
5 a little bit -- you have a little bit more freedom of
6 movement, so the placement of these controls is reasonable
7 with respect to the reach.

8 Q Did you look at the armrests as well?

9 A I did. The multifunction control has an armrest right next
10 to it. And the product that we were sent to evaluate that we
11 had available actually has wear patterns. You can see wear
12 here, here, and here. And that's an indication that they're
13 being used, that the armrest is a place where if you choose
14 to do so, you can rest your arm to help support your arm
15 while you're using the multifunction control.

16 Q There looks to be like a rest there and a rest there and a
17 rest there. Is that what you observed?

18 A Yeah. Well, there are three different rests, and those rests
19 are at different elevations. So for the larger person,
20 that's the one that is furthest away from the compartment
21 here, that may fit better more for the large person. And
22 then somebody that's a little bit shorter may like the one
23 that's nearer to the compartment.

24 Q Did you also analyze the design of the deadman brake that's
25 inside the 4250?

1 A Yes.

2 Q So we're looking at the deadman brake pedal. What were your
3 observations about that, Doctor?

4 A Sure. So --

5 THE COURT: Can we -- let's take a five-minute
6 break.

7 MR. LoCOCO: And figure this out.

8 THE COURT: And hopefully we'll get a handle on
9 modern technology.

10 (Jury exits at 9:28 a.m.)

11 (Recess from 9:28 a.m. to 9:34 a.m.)

12 (Jury enters at 9:34 a.m.)

13 THE COURT: Please be seated. All right. We're
14 back on the record. I think we figured out that there's a piece
15 of our equipment that was malfunctioning, not the lawyers'
16 equipment. So we've changed a few things around and hopefully
17 that will get it done.

18 MR. LoCOCO: Okay. Thank you, Your Honor.

19 THE COURT: Please continue.

20 BY MR. LoCOCO:

21 Q So before we took the break, I was asking you about your
22 analysis of the deadman brake as part of your initial
23 ergonomic assessment. Tell us about your analysis of the
24 deadman brake pedal on the 4250.

25 A Well, as you can see from the photograph, the deadman pedal

1 is in the forward left corner as we defined those terms
2 before. And that location is such that you can step on the
3 pedal, depress it with either foot, the left or the right
4 foot. But it's also located so that pressing it with both
5 feet at the same time, which you're not supposed to do, but
6 it's unlikely that you would do that based on where it's
7 placed. It takes 10 pounds to depress the pedal with your
8 foot. But -- and you can depress it with the ball of your
9 foot, and that's really nice because then you can lift your
10 heel if you want to get some relief for your leg. You don't
11 have to keep your heel down on the floor of the compartment.
12 And so that's kind of the findings about the deadman's pedal.
13 Its location is reasonable, you can use it with just the ball
14 of your foot, and depressing it with both feet at the same
15 time is unlikely.

16 Q I just want to ask you about this using Exhibit 157. So what
17 you're just saying is if your right toe is on the deadman
18 brake pedal, on the brake pedal, you said the operator could
19 still lift up the right heel?

20 A Exactly. You can do a heel lift. And that helps --
21 basically you stay away from static postures. You want to
22 avoid something where you make somebody stay in a fixed
23 posture for a long time. Imagine if I had my arm out. After
24 a while, it is really going to start to hurt if I just kept
25 my arm out to my side all day long.

1 Q So did you also look at the floor and the back pad?

2 A Yes.

3 Q Tell us about those, that part of the analysis.

4 A There's a back pad that we talked about earlier. And the
5 back pad has a contour. It's not just the functional width.
6 There's also what we call a hip return. It helps cradle you
7 in that back pad. But another thing is how the floor works.
8 The floor is tilted a little bit back toward the back pad to
9 help encourage operator interaction with the back pad. It's
10 actually tilted just a little bit back toward the back pad
11 and a little bit forward to help make sure the person is
12 cradled in that -- with the back pad and the hip return.

13 Q I want to go back to one of these pictures. This one is
14 good. You talked about the hip return. Could you point that
15 out for the jurors?

16 A Sure. So the hip return is right here, this segment that
17 kind of goes out toward the opening. Here's your functional
18 width and here's the hip return portion. And there's also a
19 similar curve at the front as well.

20 Q All right. Anything else about the first part of your
21 analysis, the initial ergonomic assessment?

22 A Yeah. I think there's one more bullet on the previous slide.
23 So the hip returns, they provide support that reduces the
24 need to try to maintain your balance by shifting weight back
25 and forth between your legs, and it reduces the need to

1 adjust your stance like I was just doing, shifting back and
2 forth, to resist vehicle forces. The back pad is really,
3 really helpful in terms of maintaining balance in the
4 vehicle.

5 Q All right. Then the second part of your analysis was what
6 you're calling a naturalistic study of forklift operation.
7 Why are you calling it a naturalistic study of forklift
8 operation?

9 A Well, it's contrasted to a laboratory study or some other
10 sort of study. A naturalistic study is where you try to
11 instrument a person and/or a vehicle in such a way that you
12 can get data, people using things in sort of a natural way,
13 in their normal work environment. We're doing that more and
14 more with automotive research, where we're trying to figure
15 out like in the real world, how much do people use their
16 phones and how much do people text and how much time do
17 people spend taking their eyes off the road. So that's where
18 the naturalistic data collection is very, very popular, and
19 we have technologies that are allowing us to do that now.

20 Q So what technologies are allowing -- first of all, were those
21 technologies used in this analysis?

22 A Oh, yes, we did use those sorts of technologies here.

23 Q And what are those technologies that allow a naturalistic
24 study?

25 A Well, in this particular study, what we have -- everybody's

1 familiar with Fitbit, and you can attach that to your wrist
2 or your belt. And the Fitbit can tell how far you've walked
3 and it can tell how many stairs you went up and down and so
4 on. And that's because that little Fitbit has all of this --
5 all of these -- has gyroscopes and accelerometers in it that
6 can help take all those measurements. And so that has
7 evolved in such a way that we can take Fitbit-like devices
8 and attach them to a person and we can have the person move
9 around and keep track of how they're moving around without
10 having them attached to umbilical cords or being wired up in
11 order to take that data. That's a big advancement. You can
12 take data without having somebody so wired up, and that's an
13 example of the technologies that were used in this study.

14 Q All right. So where does the actual data collection -- where
15 did it take place?

16 A It took place at Raymond's Greene, New York, warehouse.

17 Q And were you out there when the data was actually getting
18 collected?

19 A No, I was not at the facility. There were COVID travel
20 restrictions. We were collecting all of this data in the
21 middle of COVID, so no, we could not travel to the facility.

22 Q So tell us what steps you took to move forward with this
23 study.

24 A So we had a kit that was developed with the forklift that we
25 had available in the Ann Arbor area. It was actually at

1 Exponent's facility near Ann Arbor. And we were able to get
2 all of the equipment set up. And there are going to be
3 pressure pads that are used, there are going to be different
4 power units, all sorts of equipment that are used in order to
5 collect this remotely. And they pack it all up and they give
6 instructions about how to do it on a forklift at the Raymond
7 facility. And that's exactly what they did. They made
8 basically a test kit of equipment with instructions about how
9 to set it up on another forklift at the Raymond facility, and
10 that's how we proceeded.

11 Q Who was in charge of this program, this test program?

12 A Overall, I was in charge of the program. I -- Exponent has a
13 tremendous amount of experience and expertise with this kind
14 of equipment, so they were doing a lot of the work developing
15 this. I had one of my employees go over and help watch and
16 so that we understood how the equipment was being set up,
17 then it was shipped over to Exponent -- I'm sorry -- to
18 Raymond.

19 Q You said that operators were instrumented as part of this?

20 A Yes.

21 Q What did you do with respect to -- strike that. Did you just
22 pick one operator?

23 A No.

24 Q What did you do there?

25 A Well, the goal was to try to get a range. So when you do a

1 study like this, you would like to not just do the average
2 man, but you want to get somebody that might be shorter, you
3 might want to get somebody that's larger. And so we set up
4 some goals, if you will, in terms of the people we would like
5 to get. I think I have that on a slide.

6 Q Yeah. So what were the goals as far as size of operators
7 that you --

8 A Sure.

9 Q -- that you requested?

10 A So what I asked is, please try to get a small operator no
11 taller than 64 inches, preferably 61 inches or less; medium
12 size operator, one or more medium operators, 64.5 inches to
13 70.5 inches; and a large operator, over 72 inches, preferably
14 over 74 inches. And that's -- they were able to do that for
15 me.

16 Q So down here at the bottom of this slide, the participants
17 are numbered 1 through 4. Are those the actual operators
18 that you used for your study?

19 A Yes.

20 Q And tell us about their anthropometries.

21 A So we got for the small person, we have a woman who was
22 61 inches tall. These are all measurements with shoes. For
23 the medium size, we had two operators that were 70 inches,
24 both male. And then we had a male who was 75 inches. So we
25 got the -- we're in the preferred range for getting both the

1 small and the large covered, and we also got the middle
2 covered as well.

3 Q So the 70-inchers were 5-foot-10. The 61-inch woman was
4 5-foot-1?

5 A Yes.

6 Q And the 75-inch man was 6-foot-3?

7 A Yes.

8 Q All right. And you also recorded their range of experience.

9 A Right. So --

10 Q Why is that?

11 A Because we didn't want to have an effect that was related to
12 somebody who was a novice or unfamiliar with the vehicles, so
13 we had the years of experience. And it ranged from seven
14 years' to 30 years' experience.

15 Q So you said that you also instrumented the truck. Let's talk
16 about that. Tell us how you instrumented the truck for this
17 analysis.

18 A Well, this slide involves all the pressure mats, and so there
19 are five different kinds of pressure mats: One on the floor
20 that you're standing on, a separate pressure mat that's on
21 the deadman pedal, a pressure mat on the back pad and hip
22 return area, one on the armrest area, and then also one on
23 the vertical surface on the left side of the vehicle, so this
24 is on the opposite side of the back pad on the lower area.
25 And I was interested if anybody was hitting their knees on

1 this or if they would be using that in some way. I just
2 suspected that that might be something we would want to take
3 a look at, so we put a pressure pad on that. In addition,
4 this slide also talks about pressure pads. There were also
5 pressure insoles that would be put in the operator's shoe.

6 MR. LoCOCO: Your Honor, may I just have a moment
7 to confer with Mr. Warshauer?

8 (Discussion off the record.)

9 BY MR. LoCOCO:

10 Q Dr. Rhoades, did you bring a strip of those pressure circles?

11 A Yes.

12 Q If you could hold that up. Just tell the jury what we're
13 looking at here.

14 A This is the pressure pad material, and each one of these can
15 detect pressure. And so in the sum of this, we can get a
16 sense of where the foot is, where there's contact, and you
17 can also aggregate that and try to -- you can do -- try to
18 find out the amount of force in aggregate and where the
19 center of pressure is. So this is the pressure pad. In the
20 photos, you won't see green material like this because it was
21 covered with tape. We didn't want people to feel like they
22 were surrounded by measurement instruments, so we covered it
23 with black tape.

24 Q So if we go to the floor of the test truck compartment, what
25 are we looking at here?

1 A We're looking at the pressure mat with the -- you can just
2 see, if you look very carefully, little tape strips here, so
3 it's covered with the tape. And this is after it's been used
4 a little bit, so you can see some areas where it's
5 particularly worn is areas where people have been stepping on
6 it.

7 Q Did you do something similar then with the back pad?

8 A Yes. There were the pressure -- the pressure pad, and then
9 it was covered with tape.

10 Q And up in this area, what is that? Tell us what area that
11 is.

12 A Well, now we're getting past the back pad area into the
13 armrest area.

14 Q All right. So what are we looking at in this photograph, the
15 next one?

16 A These are pressure pads covered by tape over the armrest
17 area.

18 Q All right.

19 A And --

20 Q Whoops.

21 A I noticed this could become a little bit important later.
22 This area is -- there's an area below which it's not covered
23 by pressure pad.

24 Q All right. Then what area of the forklift are we looking at
25 here?

1 A Now we're looking at that vertical wall that's opposite of
2 the back pad. So if you were to bend your knees forward or
3 move your knees forward, you would hit that -- hit that wall,
4 and so we have the pressure pad. It's covered by tape. And
5 then you have -- all the data moves up here, and then it
6 gets -- it moves through wires and gets stored.

7 Q Is the steering tiller up here? Just to orient the jury.

8 A Yes. The steering tiller would be right up here.

9 Q All right. Again, using 157, orient ourselves. That picture
10 that we're looking at, there is the wall that's in front of
11 the operator when he or she is -- has his right arm or her
12 right arm to the forks, left arm to the opening?

13 A That's correct, although your indications were a little high.
14 It's low.

15 Q Right. Okay. You mentioned pressure insoles. Is that what
16 we're looking at here?

17 A Yes.

18 Q And where did those go?

19 A They go right in the operator's shoe, so you slip those in.
20 And there were different sizes available so that you could
21 get one that would be -- fit well in your shoe. And again,
22 no wires are connected to anything with this. The data is
23 stored right in little storage units at the bottom of this.

24 Q All right. You told the jury that you also put devices on
25 the operators when they were operating?

1 A Yes.

2 Q And so what are we looking at here?

3 A Well, these are these -- they're called IMUs. These are
4 these Fitbit-like devices. And there's one on the toe of
5 each foot, there's one on each ankle, there's one at the low
6 back, and there's one at the upper back.

7 Q All right. And then you said there's -- these ones here.
8 Near forklift, CG captures forklift motion. What's that?

9 A Well, it's -- we have a Fitbit that would -- it's right here,
10 and I think there was another photo. Well, this is the --
11 where the pad that was -- could measure knee contact. At the
12 top of that pad, to the right of it, or to the forward area
13 of the vehicle, we put an IMU unit in order to track the
14 motion of the forklift. Because the forklift -- the operator
15 could do their normal job and go anywhere they needed to go,
16 and so this was to keep track of where the forklift was.

17 Q So then these four operators, what were they told to do?

18 A They were told to just go about their normal day. They could
19 contact somebody if they had any concerns, but they were just
20 to go about their normal day doing their job.

21 Q If someone's operating in this truck, aren't they going to
22 know that it's, you know, that it's collecting data and
23 there's other -- this other equipment there?

24 A You know, perhaps for a few minutes, but this naturalistic
25 data, the whole idea is that after a while, you aren't

1 conscious of it. It's like if you wear a watch, you're not
2 always conscious of wearing a watch or a wedding ring or if
3 you wear a Fitbit. So in this case, the idea -- that's the
4 whole idea of naturalistic study. You're not hooked up with
5 a bunch of wires. All these things are lightweight. And
6 hopefully we're getting as close to the natural behavior of
7 these participants as they would have on any other day.

8 Q And how often are you sampling data while the operator is
9 operating?

10 A It depends on what kind of data that we're looking at. So
11 the floor mats, you don't need to sample quite as much, but
12 they were doing that eight times a second. The IMUs, they
13 were sampling over a thousand times per second. And the
14 insoles of the shoe, I think that was at 10 hertz or 10 times
15 a second.

16 Q So you sampled at a thousand times per second. One hour is
17 3,600 seconds?

18 A Yeah.

19 Q So that's 3.6 million bits of data?

20 A It's a lot of data.

21 Q It's a lot? All right. So I want to talk about some of the
22 data that you gleaned from conducting these tests. Let's
23 talk about each of these participants and what you learned
24 from their operation during their -- each of their shifts.

25 A Okay. Let's just go through Participant 1. The naturalistic

1 observation time from the time we're saying, "Okay, you're
2 good to go, you can go about doing their job," they were
3 observed for 464.9 minutes. Of that time, they're going
4 about their normal business doing their normal job. So
5 266 minutes was time on the forklift. But when you're on the
6 forklift, some of the time the forklift isn't moving. So
7 200.9 minutes, the forklift was moving.

8 For Participant 2, we again had a full shift.
9 And the time on the forklift was 272 minutes, but the
10 forklift was only moving 137 minutes.

11 Q A little over two hours?

12 A A little over two hours, yeah.

13 Q All right.

14 A Two hours and 20 minutes, approximately.

15 And then for Participant 3, again, a full
16 shift. Time on the forklift: 254 minutes. And time moving:
17 148 minutes. And so we're focusing on this time when the
18 operator's actually moving the forklift.

19 Participant Number 4 -- this is the
20 short-statured woman -- 348 minutes was the length of her
21 shift that we were taking the observations. And she spent
22 more time as a percentage on the forklift. She spent
23 395 minutes essentially on the forklift, and she was
24 operating it 211 minutes. So even though she was observed
25 for the least amount of time in terms of the overall

1 observation, she actually had the most time actually moving
2 the forklift.

3 Q Did you videotape all this movement per shift?

4 A We had a video feed so that we could make sure that we were
5 actually getting data, but we did not have a videotape
6 recording of all this.

7 Q Why not?

8 A Well, the idea was to get quantitative data. And so if you
9 are just watching people, that's not going to be
10 quantitative. So I can tell that somebody might be touching
11 the back pad, but how much force are they applying? By
12 having pressure pads, we can measure forces and be
13 quantitative about our analysis.

14 Q If you put a camera on the overhead guard down into the
15 compartment, does that have an impact on the type of video
16 you're able to get?

17 A Sure, it does, because then you also get a big problem of
18 data getting obscured. So if your camera's on top so you get
19 a good view of what's happening with one part of the body,
20 then you can't see, if you will, the contact at the back
21 lower part of the back pad because the upper body will be
22 blocking it. So that's another problem that happens with
23 video.

24 Q All right. So did you determine the direction of travel that
25 these operators went in when they were actually moving on the

1 forklift?

2 A Yes.

3 Q All right. And is that represented by this next slide?

4 A Yes. Actually, all the time that they were on the forklift
5 is represented.

6 Q Explain that to us.

7 A So in the middle, we have a big pie chart, and it's
8 explaining what the average was for all of the subjects or
9 all of the participants. And the blue is the time when
10 you're just not moving. And on average, 37 percent of the
11 time, they're in the forklift but they're not moving. They
12 might be talking to somebody who's passed by and they stop
13 and chat. They might be trying to get information about the
14 next order they're supposed to pick or the next thing they're
15 supposed to do. But for whatever reason, 37 percent of the
16 time on average that these operators were in the forklift,
17 the forklift wasn't moving. 13 percent of the time, it was
18 going rearward, which I've labeled as "Reverse." And 50 --

19 Q Let me just stop you. When you say "reverse," you mean forks
20 trailing?

21 A Forks trailing.

22 Q Compartment first?

23 A That's right. That's right.

24 Q Okay. And then forward?

25 A Forward or forks leading, 50 percent of the time. So on

1 average, people go forward more than they go in reverse.

2 Q And then the corners of this slide, you show the same data
3 but by participant?

4 A Correct. Participant 1, Participant 2, 3, and 4.

5 Q All right. Did you also obtain data on the operator's
6 foot -- feet position during their time on the forklift?

7 A Yes.

8 Q And so what are we looking at here? "Position of Operator
9 Feet on Floor."

10 A What we're looking at -- you might recall the photo before
11 where there was some dirt on it, and that was one indication
12 of where people placed their feet was just where the dirt
13 was. But we also have these pressure pads, and so what we
14 have is a heat map. So if you have these bright-colored
15 areas, that's an area where there's contact more frequently
16 than --

17 Q You mean like this here?

18 A That would be an area of frequent contact, yes. But if it's
19 illuminated but not colored green or orange, then there's
20 contact there as well, it's just not as frequent. And what
21 we see in this figure is all of the data, and this is for the
22 left-foot positions, and this is on the other side for the
23 right-foot positions. And we see that some operators were
24 depressing the pedal with their left foot, and we also had
25 other operators, three of the operators, use predominantly

1 the right foot to depress the pedal. And the other things
2 that are noteworthy are that we see that a good amount of the
3 floor is being used at some time or another by the left foot
4 and the right foot, depending on that operator's preference,
5 or they might shift their position throughout -- during the
6 shift.

7 The other thing that's noteworthy about this,
8 even though the pressure pad covers the entire floor area --
9 apologize for my not quite straight lines. You see this
10 strip where it's still black. There isn't that little blue
11 area. And that's because as the computer was assessing this
12 data, they found no data along this black strip here
13 underneath the back pad, nor was -- there was no data found
14 here, and there's a little area up here where there's no data
15 as well. And you see that as well for the right foot.
16 There's certain areas where there was no data found at any
17 time for the rows or the columns of this array of pressure
18 sensors.

19 Q Now you mentioned that one of the operators used a left foot
20 principally on the deadman pedal; the three others used the
21 right foot. Did you capture that as a percentage of time?

22 A Yes. So Operator 1 exclusively used the right foot on the
23 pedal, as did Operator 3. Operator 2 almost always had the
24 right foot on the pedal, but just on -- just less than
25 1 percent of the time used the -- used their left foot on the

1 pedal. Operator 4, the smaller stature woman, she liked to
2 basically face forward as her overall posture, and she had
3 her left foot on the brake almost all the time. But a little
4 over 1 percent of the time, she too used her right foot. So
5 this is -- this demonstrates that the pedal can be used by
6 the left foot or the right foot.

7 Q All right. Did you also study the position of the feet with
8 regard to those operators who only used the right foot on the
9 pedal?

10 A Correct. To help clear this up in terms of analyzing it, I
11 separated out the data so that we could take a look at only
12 when the right foot is used. Now what patterns do we see?
13 And so here are left-foot positions. And you might -- you
14 see a lot of contact here, which might be like the left heel,
15 but sometimes you see contact here and sometimes you see
16 contact here, so there could be a different orientation of
17 the foot. Some -- and here, on the right-hand side, of
18 course we have contact because the vehicle's in motion. We
19 know that the deadman pedal is depressed. But we don't see
20 just one spot for the heel. We see an area, different areas
21 where the heel may be placed.

22 Q So then you -- did you come to court today to show the jury
23 how you cut up this data? For example, left foot only on the
24 pedal? Is that what we're looking at here?

25 A Well, it's the same thing I just did when the right foot was

1 on the pedal, but now this slide shows it. What about when
2 the left foot is on the pedal? So if somebody has their --
3 they're using the left foot on the pedal -- so here's the
4 ball of the foot -- I'm sorry. I don't know how that
5 happened, that pink mark. We'll start again. Okay. So
6 here -- I did it again. There's the ball of the foot and
7 here's the heel, and we don't see as much variance. But over
8 here with the right foot, we do see something that is a
9 little bit more varied in terms of where the foot is placed.

10 Q And this is Participant 4?

11 A This is -- almost all of this is from Participant 4.

12 Q All right. Did you also look at position of feet on the
13 floor by each operator so that you've got it split up by
14 operator here?

15 A Yes. So we could see it all at the same time. And what we
16 did, something here, we put them all on the same slide so you
17 can see it at the same time. The other thing we did is we
18 put a circle around that area that represents 95 percent of
19 the contacts. And we do that to try to take out something
20 that's maybe just very un-commonplace, so you could see --
21 helps see the data a little bit better, if you will.

22 And so Operator 1 is a person that uses the
23 right foot on the pedal and has a little bit of variance
24 about where they have their heel. Notice Operator 2 is also
25 somebody that uses their right foot, and they have a

1 different orientation of where they have the heel compared to
2 Operator 1. Similarly, Operator 3 uses the right foot on the
3 pedal and has fairly different pattern for where the left
4 foot is compared to Operator 2. And finally, we have
5 Operator 4. She uses her left foot on the pedal and her
6 right foot is toward the right side of the vehicle. And now
7 this is a little bit different than what we said before,
8 because we took out that 5 percent of the data that was in
9 the previous slide. Sometimes she would have her foot a
10 little bit closer, sometimes a little bit further away from
11 the pedal.

12 Q All right. So then I don't want to spend time on these next
13 two slides, but you did foot position during reverse travel;
14 correct?

15 A We separated it out so that you could then see the same sort
16 of slide, but looking at it in reverse and then looking at it
17 forward. And if you flip back and forth a couple times
18 between these, you can see that the pattern changes forward
19 versus reverse.

20 Q Okay. Did you also determine data regarding the rate of heel
21 lift events over a shift?

22 A Yes.

23 Q Tell us about that.

24 A Okay. So I was interested in trying to find out these
25 posture relief events, when people would lift their heel to

1 try to -- may I stand? So sometimes when you're standing,
2 you put a knee forward and you kind of stand hipshot as
3 opposed to standing perfectly straight, and that's a posture
4 relief. And what's subtle about that is I'm lifting my left
5 heel. So I was interested in heel lifts, right-heel lifts,
6 and lifts to try to get a sense of how do people do posture
7 reliefs like this during the course of the day, so we look at
8 it by what hour of their shift it is occurring.

9 We saw no particular pattern in terms of time
10 of day when these happen, but they do happen, but with a big
11 asterisk. And the asterisk is that in a forklift, a heel
12 lift, or what we think of as a heel lift, this is coming from
13 the insole data. So the insoles in the shoe may see no
14 pressure at the heel, but you may still have your heel on the
15 ground. And if I could demonstrate?

16 MR. LoCOCO: Is that all right, Your Honor?

17 Okay.

18 THE WITNESS: Because you're leaning against the
19 back pad and there might be a vehicle motion, a turn, for
20 example, that you're doing, and so you may press on your toes,
21 and you press on your toes, which puts more weight into the back
22 pad. And you press on your toes so much that there's no
23 pressure at the heel, and so that's included here as a heel
24 lift, even though the heel isn't coming off of the ground. In
25 order to really see if the knee movement was going forward, like

1 standing hipshot, I would have to put -- I could put more IMUs
2 on the person, but we didn't put IMUs on the knees.

3 BY MR. LoCOCO:

4 Q All right. You then looked at stance changes over shift.
5 Tell us how you accommodated for stance change or how you
6 considered stance change.

7 A So normally when we think about a stance change, we think
8 about a posture change, where like we're just talking about a
9 heel lift and you put your knee forward, you stand hipshot.
10 Where there's something that -- about your limbs that are
11 changing, it turns out that we can also look at heel shifts
12 or stance changes in terms of where the center of pressure is
13 in the feet. And so we're taking a very close look at what's
14 happening with the pressure mat underneath the feet. And may
15 I stand again?

16 So if you have a stance and you're not
17 changing your stance, the center of pressure will remain the
18 same under each foot. And what we're looking at to -- what
19 we call a stance for this part of the analysis is where the
20 center of pressure under each foot is within a
21 2-inch-diameter circle. And so you might have just a little
22 shift. We're not going to call that a stance change. But if
23 you move your foot or if you move your toe or if you move
24 your heel and it moves that center of pressure more than
25 2 inches as recorded by the pressure mat, we're going to call

1 that a stance change.

2 And then what we're looking at is how -- there
3 will be a moment in time, there will be a period of time that
4 passes before you establish another stance. So we start with
5 our first stance, and then at some point, we establish a new
6 position for 10 seconds, and now we have a stance change. We
7 went from one position to a new position, and we have a
8 stance change. So that -- that's how we recorded stance
9 changes.

10 But there's a little asterisk with respect to
11 this as well. And that is, recall that I was talking about
12 when you push down on the ball of your foot, well, you can
13 easily change the center of pressure more than 2 inches just
14 by pushing down on the ball of your foot in order to react to
15 a vehicle motion, such as a turn, and that gets recorded here
16 as well. And so you could have a stance change that involves
17 pressing down with the -- on the ball of your foot, which
18 creates a new stance, and then you settle right back down to
19 the same position. So not all of these stance changes
20 involve overt movements of the foot. In fact, most of them
21 don't.

22 Q All right. Did you also look at the orientation of the
23 operators' feet while they were operating?

24 A Yes. This was really cool.

25 Q Tell us about that.

1 A So because we have an IMU at the ankle and we also have one
2 at the toe, we can get the orientation of the foot. Is the
3 foot pointed forward? Is it pointed rearward? Is it pointed
4 at 90 degrees? Remember 0 degrees, 90 degrees. But we could
5 also look at it with respect to the other foot. Are the feet
6 parallel, or is it toe-in, or is it toe-out? And what we see
7 is that a lot of data occurs either with the toes out from
8 each other and other data happens with the toes in.
9 Relatively little data is right at 0 or plus or minus
10 10 degrees. There's a lot of data that's outside of that
11 range.

12 And that's an important consideration if
13 you're going to place controls on the floor, if you're going
14 to place additional controls on the floor. Can they hit
15 that? Are you going to be impacting where their preferred
16 place is and their preferred orientation of their feet? This
17 design allows for people to have either their toes face --
18 their toes out, their toes in, or parallel. Also what this
19 does not capture is sometimes one foot will be more forward
20 of the other, so you can have a lot of different combinations
21 in terms of exactly how the feet are oriented with respect to
22 each other.

23 Q This compartment, does it permit a variety of stances?

24 A Yes, it does.

25 Q All right. You also looked at body segment orientation. I

1 want to just pick out one of these to try and have you
2 describe what we're looking at here. And I'm going to be the
3 body segment person. Tell us what we're looking at here.

4 A Okay. Well, let's take a look at Person Number --
5 Participant 3. The right foot, what we're seeing here is his
6 right foot has a range. Sometimes it's not at 0 degrees, but
7 it's close to 0 degrees straightforward.

8 Q Like this?

9 A Pretty close. Yeah. That's good. And then -- but on
10 average, it's more than -- it's more than 45 degrees. Turn
11 it more. There you go. So there's a range where that
12 operator put his right foot. And then with his left foot, he
13 had quite the range too, that he could be as much as
14 30 degrees, where -- like this. And then he could also be at
15 90 degrees, like that. And even a little bit beyond
16 90 degrees. Yes. So it was a range of orientations for this
17 operator with the left foot.

18 Now with the IMU at the lower back, he
19 sometimes would orient his hips as you are now so that it
20 would be at about 60 degrees. On average, the median --
21 that's what this line is. This is the median line. Half the
22 time, the measurements are on one side; half the measurements
23 are on the other side. His median position was 90 degrees.
24 But other times, he would turn toward the rear and so he had
25 a range that went over 60 degrees.

1 And in fact, for each of these operators, if
2 you look at what they do with their feet and how that impacts
3 what they could do with their hip, they could orient their
4 hips so that they could be toward the front or toward the
5 rear. And this range with the hips is over 60 degrees for
6 each one of these operators.

7 Q Dr. Rhoades, did you also look at the amount of percentage of
8 time that he had contact with that back pad and the level of
9 force?

10 A Yes.

11 Q Is that what we're looking at here?

12 A Yes.

13 Q So tell us about what you found regarding contact with the
14 back pad and force against the back pad.

15 A So contact time with the back pad was very high, close to but
16 not exactly 100 percent for Participants 1, 2, and 3. And
17 Participant 4, she also had a lot of contact with the back
18 pad. She's the smaller-statured woman that faces forward.
19 And she may have also had a little bit more contact below
20 the -- where the pad was. There might -- her actual contact
21 time with the forward hip return may not be captured here
22 some of that time.

23 In terms of the force that was measured, the
24 aggregate force was the median force. So half the time it's
25 going to be lower; half the time it's going to be higher.

1 Was 10.1 for the Participant 1, 16.1 pounds for Participant
2 2, and 12.8 for Participant 3. Participant 4, remember, she
3 has a pretty different posture. She -- her median force on
4 the back pad was 3.3.

5 Q Did you look at whether the force against the back pad
6 changed when the lift truck was either accelerating or
7 decelerating?

8 A Yes.

9 Q And is that captured in what we see here on this slide?

10 A Yes, it is. And what we have is the maximums, the maximum
11 total force applied to the full back pad under different
12 conditions. Forward acceleration, so that would put force on
13 that rear return; rear deceleration; forward deceleration;
14 and rear acceleration. Four different conditions. And you
15 can see that these maximum values vary a little bit depending
16 on what the condition is. But the other thing that you see
17 is the magnitude of these values. So these values, these
18 maximums, are on the 20- to 30-pound range, which is well
19 above that -- those pressure -- those median values that we
20 had before.

21 So depending on what you're doing with the
22 vehicle, you apply more force to the back pad, and that helps
23 you maintain stability in the vehicle. It's very, very
24 important. And particularly the hip return, you can use that
25 as well to help stay in a stable position in the vehicle.

1 Q So I want to go back. On Participant 1, you said that the
2 median contact force with the back pad was 10.1 --

3 A Correct.

4 Q -- pounds. But then if we go here, forward acceleration, the
5 max force was almost 30 pounds.

6 A Correct.

7 Q If we go to Participant Number 3, the median contact was how
8 much?

9 A 12.8 pounds.

10 Q But forward acceleration --

11 A Well, that's about 55 pounds.

12 Q All right. So does that -- so what's the operator doing when
13 you're getting 50 or 60 pounds into the back pad?

14 A Well, you're using the back pad. You're leaning against it.
15 And it could either be that you're pushing into it or that
16 the turn of the vehicle is in such a direction that your body
17 weight is going into the back pad. So it could either be
18 that you're actively pushing into the back pad or that the
19 vehicle motion applies more force to the back pad.

20 Q In collecting all of this data, were you -- did any of the
21 operators fall out of the compartment?

22 A No.

23 Q You also did an analysis of armrest contact?

24 A Yes.

25 Q Is that what we're looking at here?

1 A Yes.

2 Q And you also did an analysis of knee contact?

3 A Yes.

4 Q And knee contact is with the -- that left side of the
5 compartment, what's ahead of the operator?

6 A Yes.

7 Q And which participant was Number 3?

8 A He was the tall guy. He's very, very tall. And on occasion,
9 what he would do is he would kind of slide his back down the
10 back pad and have his knees in contact with the other side.
11 He's that tall that he can do that. And he was doing that --
12 that was a form of posture relief for him.

13 Q Doctor, did you form some opinions and conclusions based on
14 this naturalistic study?

15 A Yes.

16 Q Let's talk about those. With regard to the Raymond's
17 single-pedal design, what did you conclude?

18 A It allows operators to shift body weight position, and it
19 improves comfort by helping people avoid static postures that
20 can create discomfort and fatigue.

21 Q Let me just stop you there. Is comfort related to safety?

22 A You can think of comfort as being -- there's comfort and
23 performance, but there's also a scale of comfort, discomfort,
24 fatigue, and there can be cumulative trauma disorders or
25 musculoskeletal disorders that can develop if you repeatedly

1 get into situations with static postures, awkward postures,
2 high force.

3 Q What else did you conclude about the compartment on the 4250?

4 A It allows flexibility. The right or left foot could be used
5 to depress the deadman pedal. No -- at no time did we ever
6 identify both feet being on the pedal. Again, that's
7 unlikely because of the size and location of the pedal. And
8 we had no operator depressing the pedal with the heel of the
9 shoe.

10 Q What else did you conclude?

11 A The operator compartment design allows for heel lift and
12 stance change, and we did see instances where there was a
13 stance change where somebody could rotate about the heel of
14 their shoe. You could also rotate about the ball of your
15 shoe, or you can move your entire foot. But normally those
16 movements were small in terms of distance.

17 Q And what did you conclude about the back pad?

18 A Well, the back pad is very important with respect to reducing
19 the amount of effort that's required to maintain your balance
20 in the vehicle. It's -- imagine if you were riding a subway
21 and the subway comes to a stop, and you had -- you weren't
22 holding onto anything. That's going to take a lot more
23 effort to maintain your balance than if you're holding onto
24 something. And the back pad is that point of contact that's
25 above your feet that helps provide a lot of support.

1 Q You mentioned flexibility and hip orientations. Why is that
2 a conclusion?

3 A Well, the -- you can orient your body, and people do want to
4 orient their body, and that helps with your vision, because
5 you need to either look to the front, you need to look to the
6 back. And so one of the ways you can do that more easily is
7 instead of doing everything with your neck, you can start
8 with your -- you could start with your feet and up your body
9 to help orient and make all these turns of your body less
10 than if you had to do all the work necessarily with just your
11 neck, for example.

12 Q All right. And you told us earlier the design accommodates a
13 range of body types?

14 A Yes.

15 Q And what's this last point here about lower posture -- body
16 posture flexibility?

17 A Well, it allows a lot of flexibility with respect to your
18 lower body posture, and that increases comfort, as opposed to
19 having everything static or forced into a very particular
20 position for long periods of time.

21 Q Dr. Rhoades, were these conclusions presented to the Raymond
22 engineers?

23 A Yes.

24 Q All right. And you've mentioned posture relief a couple of
25 times. Why is that important?

1 A Again, what you want to avoid are static postures for a long
2 period of time. I gave the example of, I just had my arm out
3 here for a long period of time. That would be very fatiguing
4 and wouldn't be too long before it really hurt. And so you
5 want to be able to have posture relief.

6 Q Did you make -- form an opinion to a reasonable degree of
7 certainty in your field of expertise as to whether the
8 compartment on this 4250 represents a reasonable ergonomic
9 design?

10 A Yes.

11 Q And what was that opinion?

12 A I believe it's reasonable.

13 MR. LoCOCO: Just a moment, Your Honor.

14 MR. MURPHY: Thank you.

15 MR. LoCOCO: Nothing further. Thank you, Doctor.

16 THE COURT: This is a good time to take a
17 15-minute break. We'll start back at 20 minutes to 10 [sic].
18 All right. We're in recess.

19 (Jury exits at 10:24 a.m.)

20 (Recess from 10:24 a.m. to 10:41 a.m.)

21 THE COURT: All right. We're back on the record
22 in Anderson v. Raymond. The jury is not in the courtroom.

23 Mr. LoCoco, you wanted to make a record about
24 something?

25 MR. LoCOCO: Yeah. Further I guess explanation

1 for the worker's comp issue that came up last week. Just so the
2 record's clear, I was using the plaintiff's own medical record
3 exhibit when I was getting ready and when I was using those
4 records. And my understanding was that the plaintiffs had paid
5 someone to scrub the records of worker's comp, which is not a
6 hundred percent excuse. I should have still checked it myself.
7 But I thought it was clean and I -- again, I wasn't making any
8 efforts to get that in front of the jury and I want the record
9 to be clear about that. Thank you.

10 THE COURT: Well, that's important. Is that
11 accurate, Counsel?

12 MR. WARSHAUER: It is accurate that I assumed
13 that our records that we intend to go out will and should be
14 scrubbed or they're not going out, so absolutely. I don't think
15 Mr. LoCoco intended to do it. I think it's a certain degree of
16 carelessness that we all do at one time or another. I'm not
17 overly aggravated about it. It's just we all have to be
18 careful. I'm sure I've done similar things unintentionally.

19 MR. LoCOCO: Thank you. I appreciate that. But
20 those are the records that are in evidence, so.

21 MR. WARSHAUER: No, they've got to be cleaned up.
22 And you recall when I said -- I think they have -- I told people
23 to do it, but we will triple-check.

24 THE COURT: That's important we cleared that up.

25 MR. WARSHAUER: Yes, sir.

1 MR. LoCOCO: Thank you, Your Honor.

2 THE COURT: All right. Are we ready for the
3 jury?

4 MR. WARSHAUER: I think I have it just right.
5 When this pops up, we'll know. Should be two seconds. Yes,
6 sir.

7 (Jury enters at 10:44 a.m.)

8 THE COURT: All right. Please be seated.

9 All right. Cross-examination?

10 MR. WARSHAUER: Thank you, Your Honor.

11 CROSS-EXAMINATION

12 BY MR. WARSHAUER:

13 Q Dr. Rhoades, you do understand that this lawsuit is about
14 whether this product is unreasonably dangerous, not
15 excessively comfortable? You do understand that; right?

16 A I understand your allegations are that it's unreasonably
17 dangerous.

18 Q And when you did this work in August of 2020 and September of
19 2020, when you were retained, your retention agreement did
20 not include an analysis to determine whether or not this
21 product was safe. That's true, isn't it?

22 A The retention was from the engineering department. It wasn't
23 about this lawsuit in August of 2020. And it was an
24 ergonomics assessment, yes.

25 Q In fact, Raymond did not ask you to help make -- help them

1 make their product safer, did they?

2 A No, that wasn't a stated function of it.

3 Q Nor did Raymond tell you about the number of left-leg
4 amputation cases users of this product had suffered before
5 they asked you to analyze the fact that it has one pedal and
6 one pedal only. That's true too, isn't it?

7 A It's true that they did not give me statistics about the
8 number of accidents.

9 Q In fact, they didn't even tell you the most common form of
10 accident suffered by operators of their standup forklift
11 products, did they?

12 A I don't recall them saying that.

13 Q Now when you worked putting together the materials for the
14 PWCs, Yamaha and Kawasaki and Coast Guard was involved in
15 that?

16 A Yes.

17 Q You gathered accident reports as part of your work; right?

18 A We looked at BSAC data which is data that is collected by the
19 Coast Guard. So it doesn't tell you who the manufacturer
20 was, but it tells you a little bit about the craft, and it's
21 data that they collect on an ongoing basis.

22 Q But Raymond didn't give you any accident reports, did it?

23 A No.

24 Q In fact, Raymond didn't even give you any tabulations of
25 accident reports, did it?

1 A No, they did not.

2 Q Did Raymond tell you that what it does with accident reports
3 is they collect them by their general counsel to use as
4 advance warning of litigation, not to make their products
5 safer? Did they tell you that too?

6 A They did not tell me that.

7 Q Did Raymond tell you that after this product was on the
8 marketplace, that they did not have a pattern, practice, and
9 procedure in place to monitor it in a formalized way, to see
10 how it's performing and what kinds of injuries it's causing?

11 A We didn't discuss that one way or the other.

12 Q The fact is that in your work for Raymond, this one project
13 that you did, there was no goal at all to reduce or eliminate
14 the likelihood of left-leg amputation injuries suffered by
15 operators, was there?

16 A The focus of the work was an ergonomics assessment, not
17 focused on a reduction of left-leg injuries.

18 Q Your adult life has been spent to some degree helping
19 corporations make their products safer; you'll agree with
20 that?

21 A To some degree, yes.

22 Q And the companies that you've worked with generally have
23 procedures in place, that formalized system of monitoring
24 their product, to see how it performs so that they can find
25 out injury trends and things like that, because you got to

1 know what's happening before you can react. You agree with
2 that, don't you?

3 A The practices of corporations can vary depending on what kind
4 of corporation it is. An automotive company versus the --
5 like the PWC manufacturers, they looked at the BSAC data,
6 which is -- combines the data among manufacturers. So the
7 practices among corporations varies.

8 Q And one of the things they do when they're trying to make
9 their products safer is to consider both hazards and risk?

10 A Correct.

11 Q What's a hazard?

12 A A hazard is a characteristic of a product or a situation that
13 can cause harm. Like exposed wiring can cause harm, a fire
14 or electrical shock, for example.

15 Q Falling out of a forklift is a hazard?

16 A Yes, it could be hazardous to fall out of a moving forklift,
17 yes.

18 Q Losing your balance is a hazard?

19 A Yes, if you lose your balance, you can -- you can be injured,
20 even if you're not in a forklift.

21 Q And then the other side of that equation is the risk, that
22 is, the likelihood that the hazard will result in an injury?

23 A Risk looks at the likelihood and also the severity too. Many
24 risk measures include both the likelihood and severity.

25 Q So for example, when you were working with the watercraft

1 manufacturers, you made a list of things and balance was one
2 of the things that was considered, loss of balance by the
3 operator; right?

4 A Loss of balance was on the list because as we reviewed all of
5 the information prepared by all the manufacturers, one of
6 them had that in the manual, so we put that on the list of
7 topics to discuss in our meetings.

8 Q But the Raymond Corporation never even told you that loss of
9 balance was something they had on their radar, did they?

10 A I don't believe that they told me expressly that loss of
11 balance was on their radar as you're saying, but it was
12 evident from my analysis that was part of the ergonomics
13 analysis, are those features that help people remain in a
14 stable position in the vehicle.

15 Q This stable position that you talked about is illustrated
16 here in one of your slides. It's called the operating
17 position; right?

18 A Well, that is a stable position, and that's a pretty typical
19 position too in the vehicle.

20 Q Right. But there's -- you would agree that what we see on
21 the right-hand image, the man in the blue shirt and the
22 khaki-ish pants, is a man in the operating position, two feet
23 on the floor --

24 A Is an operating position.

25 Q Right. An operating position is two feet on the floor?

1 A Correct.

2 Q Left hand on the tiller?

3 A Correct.

4 Q Right hand on the multifunction?

5 A Yes.

6 Q And back against the backrest?

7 A Yes.

8 Q And your normative study of four people indicated that
9 indeed, people working at the Raymond Corporation, while
10 they're being watched by Raymond people, who you would expect
11 would take the right positions, indeed almost universally
12 kept two feet on the floor, left hand in the tiller, right
13 hand on the multifunction, and their back against the
14 backrest; right?

15 A That's true, although the nature of the study when we were
16 collecting the data, they weren't being constantly watched by
17 Raymond Corporation. They were going about their normal day.
18 There was a setup period in the morning and then it was "Go
19 about your day."

20 Q It was "Go about your day" after you have been put into a
21 forklift that is covered with sensors, you have an insole in
22 your shoe, and you have six sensors glued to you, and you
23 have a management person, Mr. Kerila, told you, "We're going
24 to be watching your feet over the next four hours. Make sure
25 you do it right."

1 A No, sir. That is not the instruction that we had as part of
2 the instructions to Mr. Kerila. And I have no understanding
3 whatsoever that that's what he told operators.

4 Q You didn't provide him a script, did you?

5 A We did provide him instructions about what to tell the
6 operators.

7 Q You didn't provide him a script?

8 A I think we didn't give him a word-for-word script, but there
9 were instructions about what to tell the operator.

10 Q And you didn't record any of what he told the operators, did
11 you?

12 A No, we did not.

13 Q Okay. One would expect that an operator who has insoles in
14 their boots, standing on a floor covered with sensors, might
15 well figure it out that the thing they're going to be watched
16 during their shift is the movement of their feet. That makes
17 sense, doesn't it, Dr. Rhoades?

18 A No, I don't really believe so. For example, when we do the
19 automotive studies and you are watching people, they still
20 have -- people still text in these studies, these
21 naturalistic studies after a while. They basically are
22 getting back into your normal behavior patterns.

23 Q When someone is in the operating position as we see here on
24 the Raymond 4250 -- this is one of your slides, isn't it?

25 A Yes.

1 Q And their left foot moves down and out. That forklift
2 doesn't stop, does it?

3 A Excuse me, that is not -- now that is not my slide. You've
4 manipulated it.

5 Q I did manipulate it.

6 A Okay.

7 Q And the question is, when that left foot moves down and out,
8 you'll agree with me that forklift does not stop, does it?

9 A That's correct.

10 Q Okay.

11 A So long as the control is still rearward, you haven't taken
12 your foot off the deadman pedal.

13 Q Just to be sure, this normal operating position is two feet
14 on the floor, left hand on the steering tiller, right hand on
15 the multifunction, contact with the backrest. You told me
16 before, yes, that's typically the normal operating position,
17 and you agree with that; right?

18 A I agree with that, although it's not an exact angle of the
19 hips, so you have flexibility with that posture in terms of
20 where the feet are on the floor, in terms of your hips
21 against the back pad. And it's almost a hundred percent, not
22 absolutely a hundred percent.

23 Q So this man that we see on the right, if he's separated from
24 the backrest, which you say needs to be in contact to be in
25 the operating position, there's no sensor there like there is

1 on the seat of a riding lawn mower, is there?

2 A No, there's no sensor on the back. And I don't think that
3 would be a good idea.

4 Q So in fact, on the 4250, if you break contact with the normal
5 operating position, back against the backrest, it doesn't
6 apply the brakes or disconnect the power, does it?

7 A That's true. It does not.

8 Q Nor does it apply the brakes or disconnect the power if the
9 left foot leaves the floor if his right foot is holding down
10 the brake. That's true, isn't it?

11 A That's true.

12 Q Now we talked a little bit about the recording that you did,
13 these millions and millions of points of data; right?

14 A Correct.

15 Q But at the end of the day, what we really have is four people
16 for roughly seven-plus-hour shifts, so that's about 28 hours
17 of video total?

18 A There was about 28 hours of observation, yes.

19 Q Okay. So 28 hours. Couple of terabytes at the most?

20 A You mean if we had preserved video?

21 Q Yeah.

22 A Yeah. And the problem is you have these problems with it
23 being obscured. You can't tell how much force is below -- in
24 the sensors and so on, so there are a lot of limits to video
25 data, including after the fact, syncing it up so you have it

1 same-time synced with everything. So there will be some
2 challenges.

3 Q There would be some challenges, but let's assume you just
4 put -- I've got one, two, three blue squares that could be
5 cameras. I mean, it's possible to put cameras on this
6 machine for multiple angles; right?

7 A It would be possible. There are now these little lipstick
8 lenses that are very small lenses, so it would be possible to
9 put lenses in various positions. There may be some problems
10 with it needing to be wide angle because you don't have much
11 distance that you're working with. So there would be some
12 challenges if you wanted to go with a video approach.

13 Q But you don't own that equipment, but Exponent, the company
14 that you worked with to do this, with its multiple offices
15 throughout the country and more than 800 engineers employed
16 by it, they probably do own a bunch of cameras, don't you
17 think?

18 A I'm sure they have some GoPro cameras. Yeah, I mean, the
19 technology isn't that expensive even if you had to go out and
20 just buy it.

21 Q And this work you did was \$91,000 after the \$5,000 courtesy
22 discount?

23 A That sounds about right. I don't have that figure with me
24 right now.

25 Q So if we were to buy another hundred dollars' worth of thumb

1 drives to record all this, it was possible, wasn't it?

2 A But it wouldn't be just another hundred dollars, because then
3 you have to sync all of that with this other data to be
4 meaningful. It would be -- it's -- so if you're looking at
5 something at a particular point in time, a snapshot on a
6 video, then the question becomes, well, what are the forces
7 against the back pad at that exact moment? How does that
8 correlate with the quantitative data? And syncing that up,
9 now that would be more expensive.

10 Q Well, I really didn't ask you about those questions.

11 A Okay.

12 Q But it would have allowed us to see operators swaying back
13 and forth in the normal use of this machine, but because you
14 didn't do that, we can't even see their body movements and
15 how they moved and what they're doing on these forklifts. We
16 don't have any ability to see that. And at the end of the
17 day, it was your choice not to record that; right?

18 A We did not make a video recording of this. We were -- the
19 objective was to get quantitative data. And as far as
20 swaying back and forth, there's this contact with the back
21 pad that you don't have -- you can have swaying above the hip
22 level, but where you have the contact with the back pad, the
23 back pad pretty much keeps you in contact with the back pad.
24 You're not swaying at the hip level, if you will.

25 Q Dr. Rhoades, your opinion was, and I wrote it down, but it's

1 a comfortable place, comfortable forklift; right? Allows
2 flexibility. But you didn't ask these four people, "Hey,
3 were you comfortable today?" You didn't ask a single one of
4 them, did you?

5 A No, no, we did not do a structured interview.

6 Q You didn't do a survey of going into a FedEx warehouse where
7 there might be 20 of these forklifts going and say, "Hey, on
8 a scale of 1 to 7, what's your comfort scale?" You didn't do
9 that, did you?

10 A No, I did not.

11 Q But most importantly for my curiosity is you also didn't do
12 any work at all about whether or not the Crown floor or the
13 floor made by other manufacturers, like Clarke or Hyundai or
14 Mitsubishi, which is one of your old clients, were equally as
15 comfortable to the operator. You didn't do that, did you?

16 A No. This did not involve a comparison to other designs.

17 Q In fact -- now this is a little larger than scale. You
18 didn't do anything at all --

19 MR. LoCOCO: I'm sorry, could I see?

20 MR. WARSHAUER: It is a little larger than scale.
21 That's why we haven't used it other than this big picture.

22 THE COURT: Wait, is there an objection? It
23 looks like a blowup of the Crown.

24 MR. WARSHAUER: Blowup of the Crown floor.

25 MR. LoCOCO: I just hadn't seen it before.

1 MR. WARSHAUER: I thought you had when we showed
2 it. That's what it looks like.

3 MR. LoCOCO: Do you know what the scale is?

4 MR. WARSHAUER: It's about an inch too wide.

5 MR. LoCOCO: Thank you.

6 BY MR. WARSHAUER:

7 Q I'm telling you it is bigger than their floor. Okay? But
8 what you did not do, you never went and looked at a Crown
9 forklift, did you?

10 A Not for this -- not for this project.

11 Q And you never got any indication from Raymond why it doesn't
12 have an orange bar, so if the left foot creeps to the left.
13 Unknowingly, the operator would be encouraged to put it back.
14 Didn't do any work on that either?

15 A I did not assess the orange bar in the Crown.

16 Q And you didn't do any work on Crown to see how the operator's
17 left foot can be in a variety of ways as long as part of it
18 is on that pedal; correct?

19 A So long as part of it's on the pedal, although that seems to
20 be -- with the orientation that you have, it seems to have
21 the heel down. You're using it with the heel.

22 Q Okay. Well, but you didn't do any work on that; right?

23 A No, I didn't.

24 Q You didn't look at this other design of pedal that's a series
25 of arcs, that the foot can literally be anywhere as long as

1 it's on the floor? You didn't evaluate that for safety
2 either, did you?

3 A I didn't evaluate that. I'm not sure that I would call that
4 a pedal. It doesn't move up and down.

5 Q It's a sensor of proximity that the foot is there. Not a
6 pedal because it doesn't move. I'll agree with you. But you
7 didn't evaluate that either?

8 A No, I did not.

9 Q The fact is, you did no testing whatsoever to determine how a
10 brake pedal under the left foot would affect comfort or an
11 operator's ability to move or assume stances that are
12 comfortable to suit their individual preferences. That's
13 true, isn't it?

14 A That's true. I did not evaluate that design.

15 Q You didn't test how a properly designed second pedal would
16 affect the ability to shift body weight. That's true too,
17 isn't it?

18 A Correct. I was looking at the Raymond design.

19 Q Now Raymond never even told you why that pedal's up in the
20 upper left-hand corner of the operator's compartment, did
21 they?

22 A No, I don't recall talking about the placement of the pedal
23 in the corner with Raymond. I don't recall that being
24 discussed.

25 Q You did consider other available safety systems, but you

1 didn't do any work on those either, did you? For example,
2 did you do any work to decide whether or not the Operator
3 Compartment Sensor System presents any ergonomic issues to
4 the operator?

5 A No, I did not evaluate the sensor system.

6 Q Did Raymond tell you that they have a patent on Operator
7 Compartment Sensor System that has lasers on it, that if the
8 operator leaves the compartment, it can be programmed to
9 apply the brake? Did they tell you to check into that?

10 A No, that was outside the scope of my work.

11 Q Did they show you -- so they didn't tell you and ask you to
12 evaluate this optional product that could put lasers across
13 the door and prevent the left foot from going outside and
14 applying the brake if it did?

15 A I did not evaluate lasers at the face of the door. That was
16 outside the scope.

17 Q But yet we know, because it's in your slides, that you were
18 aware at least that the Operator Compartment Sensor System
19 actually exists; right?

20 A Correct, that there are options available.

21 Q Now the FedEx facility at which Mrs. Anderson was working is
22 2.5 million square feet. How big is the warehouse that your
23 work was done at?

24 A I don't know.

25 Q Mrs. Anderson and others, Mrs. -- Ms. Boone, told us that

1 there were cracks in that warehouse sufficient to cause
2 balance challenges and shaking of the forklift. Do you know
3 whether there are cracks at the warehouse at Raymond that are
4 sufficient to cause shaking and balance challenges?

5 A I did not evaluate the flooring at the Raymond facility. I
6 do know that part of the data that we collected involved
7 crossing dock locks to go in and out of trailers, so there
8 would be permutations related to that -- perturbations
9 related to that.

10 Q Did your operators ever hit any defect in the floor or debris
11 on the floor that they did not expect?

12 A Not that I'm aware of.

13 Q Dr. Rhoades, I may have asked you about this when we met via
14 Zoom. I can't be sure. But I recall taking statistics in
15 college. And they talked about sample size, confidence
16 intervals. You will agree with me that four operators is not
17 a reasonable sample size to derive to -- upon which to base
18 an opinion as to how many people use their right foot?

19 A I'm sorry, the --

20 Q Or their left foot on the brake?

21 A Could you please -- there was a word I didn't catch.

22 Q Yeah. You would agree with me that a sample size of four is
23 not a sufficient sample size to formulate an opinion as to
24 how many people use their left foot on this brake as opposed
25 to their right?

1 A Oh, that's correct. You cannot do that, because we have four
2 participants. One predominantly used the left foot on the
3 pedal. You can't say with only four subjects, that if I did
4 a hundred subjects, that 25 would have that. There's no way
5 you could do that because you don't have enough data to make
6 that kind of conclusion. But other conclusions you can make
7 fairly even with four people, that people basically have
8 their feet in different positions of the floor, that the
9 amount of force base that's used. Those kind of things, you
10 don't expect that to change if I collect more data.

11 Q But one of the things you did not do was to look at any of
12 these competing companies to see whether or not people can
13 adequately move around on their products too; correct? You
14 didn't look at those, nor did you -- I'm sorry. Go ahead and
15 answer.

16 A I just think you advanced your slide.

17 Q I did, but it was a bunch of logos, and I think we
18 established you didn't look at anybody else's product to see
19 if they were ergonomically appropriate.

20 A For this subject, no, I did not.

21 Q And you're not offering an opinion as to whether the Raymond
22 4250 involved in this case did or did not comply with a
23 standard published in B56.1 Standards, 7.20.2. You're not
24 offering that opinion, are you?

25 A No, I haven't looked at this particular section.

1 MR. WARSHAUER: Okay. Well, that is my curiosity
2 for now. Thank you.

3 THE COURT: Redirect?

4 MR. LoCOCO: Thank you, Your Honor.

5 REDIRECT EXAMINATION

6 BY MR. LoCOCO:

7 Q Dr. Rhoades, just a few questions. From an ergonomics
8 perspective, did you conclude that the 4250 is a good
9 operator compartment?

10 A Yes, I did.

11 Q All right. And did the data that you collect show any
12 evidence of falling out or losing balance?

13 A No, it did not indicate that.

14 Q You were asked about whether Raymond even talked to you about
15 their interest in -- whether they were interested in balance.
16 And you answered Mr. Warshauer's question, that you hadn't
17 discussed that. But what were you able to conclude based on
18 your analysis of the 4250's compartment on the issue of
19 balance?

20 A The design of this system affords the operator an ability to
21 be stable in the operator's compartment on the forklift,
22 particularly the back pad. It's very important in terms of
23 having something that helps keep you stable and takes some --
24 a lot of the effort out of remaining stable. You don't have
25 to try to balance like you're on a subway without a handhold.

1 Q You were asked a number of questions about things related to
2 the naturalistic study that you did. For example,
3 Mr. Warshauer showed you a photograph with three blue boxes
4 indicating I guess video cameras that he would have
5 preferred. Do you recall that, those questions?

6 A I recall the questions. I really don't recall the three
7 boxes, but.

8 Q All right. Did you see any testing from Dr. Meyer, Dr. Jeka,
9 Dr. Kerrigan, where they did anything like the analysis that
10 you shared with the jury today?

11 A No, I saw nothing like that from them.

12 Q Did you see any videotape from them of operators and how they
13 operate in the 4250?

14 A No.

15 Q You talked about the difficulty with actual video versus the
16 data that you collected, and you mentioned something about
17 sync or syncing. Could you describe what you're getting at
18 there?

19 A So you have data from different sensors and you have to sync
20 it up to make sure that at a given point in time, you know
21 what data you're collecting from where, you know where the
22 forklift is and so on. So you sync up all this data. And so
23 if you have, let's say, a video clip or a screenshot, and
24 then in order to know what's going on quantitatively, you'd
25 have to sync it up. You'd have to know where you are with

respect to, well, what are we measuring at the back pads, at the pressure pads, what does the insole say and so on, if you want to have both video and quantitative data at the same time. Our emphasis was on the quantitative data.

Q And so with the foot insoles, the IMUs, the sensor pads, at -- I'm just going to pick a date -- you know, September 5th, 2020, 10:51, 30 seconds and 0.22 seconds, was all the rest of the data synced up to whatever timeframe that was?

A Yes. The data would be synced up, including the vehicle IMU, because we were focused on when the vehicle is moving, so we're not concerned if that particular spot in time the person was off the vehicle.

Q You were asked about the Operator Compartment Sensor System that Raymond makes available to customers such as FedEx. Were you aware of the fact that FedEx chose not to purchase that option for the 4250 involved in this case?

A That's my understanding, that they did not choose that.

Q And after the accident, they chose not to purchase that feature?

A That's my understanding.

Q All right.

MR. LoCOCO: Thank you, Your Honor. Nothing further.

RE CROSS-EXAMINATION

1 BY MR. WARSHAUER:

2 Q It's true that Dr. Meyer, Dr. Jeka, and Dr. Kerrigan never
3 opined that this compartment was uncomfortable, did they?

4 A I don't recall them ever calling it uncomfortable.

5 Q But you will agree that giving up a little comfort in
6 exchange for safety is a reasonable tradeoff?

7 A It can be.

8 MR. LoCOCO: Just one, Your Honor.

9 REDIRECT EXAMINATION

10 BY MR. LoCOCO:

11 Q Dr. Rhoades, were you only looking at comfort in your
12 analysis?

13 A Well, I was -- there's comfort, there's discomfort, and then
14 after discomfort and fatigue, then you're looking at a safety
15 and health issue at that point as well, if you don't want
16 people that spend their whole careers doing a job like this
17 ending up with a musculoskeletal disorder or some other sort
18 of problem. So it wasn't just about comfort.

19 MR. LoCOCO: All right. Thank you. Thank you,
20 Your Honor.

21 THE COURT: I have a quick question for you.

22 THE WITNESS: Sure.

23 EXAMINATION BY THE COURT

24 BY THE COURT:

25 Q Do you know what the maximum speed was for the test

1 forklifts?

2 A I'm speaking from just memory now. I think it was 8 miles
3 per hour.

4 Q And did you -- was your measurement synced to the speed of
5 the forklift at the time the data points were coming in?

6 A We could sync it, because there was the IMU that was attached
7 to the truck itself, so. And that has accelerometers so that
8 you could not -- you could track the velocity of the vehicle,
9 and we were focused on those periods of time where the
10 vehicle was moving.

11 Q So you did track that data or you did not track that data?

12 A We have it available. I did not show slides correlating a
13 particular speed to a particular behavior.

14 THE COURT: Thank you.

15 In light of the Court's questions, any further
16 questions, Mr. LoCoco?

17 MR. LoCOCO: No, I think I'm good. Thank you,
18 Your Honor.

19 THE COURT: Counsel, any further questions?

20 MR. WARSHAUER: No, sir.

21 THE COURT: All right. Sir, you're free to go.

22 THE WITNESS: Thank you.

23 THE COURT: All right. It's 20 after 11. Do you
24 have another witness --

25 MR. LoCOCO: Yes, sir.

1 THE COURT: -- to call?

2 MR. LoCOCO: Yes, sir.

3 THE COURT: All right.

4 MR. LoCOCO: Your Honor, we call Mr. Robert
5 Kerila.

6 THE COURT: All right.

7 (Sidebar begins.)

8 MR. WARSHAUER: I just want to remind Counsel
9 that there's been no expert disclosure for this witness. We
10 have a motion in limine. We have a ruling that there are no
11 opinions for this guy.

12 MR. LoCOCO: No opinions related to this case,
13 absolutely. He's here to describe the design and why it's
14 designed the way it is, which necessarily includes some
15 engineering concepts, but he's not here to talk about
16 Mrs. Anderson's accident.

17 THE COURT: Wouldn't that be opinions?

18 MR. LoCOCO: No, Your Honor.

19 MR. WARSHAUER: For example, can he say it
20 complies with 7.20.2?

21 MR. LoCOCO: I'm going to say, "Did Raymond
22 design the truck so as to be in compliance?" I think that's
23 perfectly appropriate. It's in the materials.

24 MR. WARSHAUER: That's fine.

25 THE COURT: That's an opinion.

1 MR. WARSHAUER: Well --

2 THE COURT: You didn't -- he can -- it's a lay
3 witness who has -- who has some level of expertise, and he can
4 testify consistent with that as long as he's not giving
5 opinions. And I think the rule specifically limits -- let's do
6 this.

7 (Sidebar ends.)

8 THE COURT: Why don't we take a quick five-minute
9 break, and we'll start back in five minutes.

10 (Jury exits at 11:20 a.m.)

11 THE COURT: All right. We are outside the
12 presence of the jury.

13 Counsel, are you guys ready to discuss the --
14 this witness's testimony and his opinions?

15 MR. LoCOCO: Do you want Mr. Kerila out of here
16 or not? I don't care, but --

17 MR. WARSHAUER: I think it's best if he's out.

18 THE COURT: All right. If you'd step outside,
19 sir.

20 THE WITNESS: Sure.

21 THE COURT: Thank you.

22 MR. LoCOCO: Your Honor, maybe it would help if I
23 explain what I intended to do.

24 THE COURT: All right. Let's go on the record.

25 MR. LoCOCO: I'm sorry.

1 THE COURT: Again, we're outside the presence of
2 the jury. The witness has left the courtroom. This gentleman
3 was not disclosed as one offering expert opinion testimony. And
4 my previous ruling was that pursuant to Rule 701, if a witness
5 is not testifying as an expert, testimony in the form of opinion
6 is limited to one that is, (a), rationally based on the
7 witness's perception; (b), helpful to clearly understanding the
8 witness's testimony or to determining a fact in issue; and (c),
9 is not based on scientific, technical, or other specialized
10 knowledge within the scope of Rule 702. The scope of 702,
11 testimony is based on sufficient facts and data. Witness who's
12 qualified as an expert by knowledge, skill, expert experience,
13 training, or education may testify in the form of an opinion and
14 sets out the basis.

15 So let's talk about what you anticipate eliciting
16 from this witness.

17 MR. LoCOCO: So Mr. Kerila is here to describe
18 the 4250, describe the design process that led to the design
19 that is at issue in this case, to describe the things that go
20 into that design process, you know, the testing they do, whether
21 they look at standards as part of the process. The manuals that
22 we produced to the other side, the operator's manual, in fact,
23 says it's designed in compliance with B56.1. He would factually
24 say that was their design intent and what they did to try and
25 confirm that, and -- but he would not be offering testimony

1 about Mrs. Anderson's accident, about whether in his opinion the
2 truck is reasonably safe, about whether Mrs. Anderson was
3 negligent. I mean, none of those opinions have been put out or
4 will be offered. His sole testimony will be about the design,
5 why it's designed the way it is, and what went into Raymond's
6 decisionmaking. So I think those are facts.

7 MR. WARSHAUER: I would agree --

8 THE COURT: Sounds like an opinion. He's
9 saying --

10 MR. WARSHAUER: Some are facts and some are not
11 facts. The process: Fact. Testing is fact. The intent to
12 comply probably is a fact. Whether they do comply is exactly
13 what 701 addresses, which is something based on technical
14 knowledge. That's an opinion. And that's what we would
15 disagree with. I do think he probably can say, "It's our intent
16 to make these compliant." And my cross on that will be, "You
17 are the judge, jury, and prosecutor as to whether you do
18 comply." And that would be it. I'm not going to elicit whether
19 they do from him or not. I'm not going to open that door. Just
20 to talk about the process, whether you're in compliance or not,
21 and there's no outside organization that checks it. I'm sure
22 this will now be part of direct. But --

23 MR. LoCOCO: Probably not, I mean, because I am
24 going to stay tight to what I said to the Court.

25 THE COURT: I think if he's -- I think if he

1 offers an opinion as to whether or not equipment complies with
2 certain standards is an opinion.

3 MR. LoCOCO: He's --

4 THE COURT: Now if you say the intent was to --
5 there are engineering standards, there's -- that they were
6 trying to -- they hoped this product complied with, there are --
7 there's all kinds of things that go into it. But if you're
8 going to ask him, "Does this comply with the standards that
9 we've been talking about?" I think those are -- that's an
10 opinion. He can't say, "Well, I'm so involved in the process,
11 that's no longer an opinion. It's a fact." Can't say that.
12 It's not a fact. It's an opinion.

13 MR. LoCOCO: The plan, Your Honor, is exactly
14 what I've said, to ask him whether Raymond utilizes the B56.1
15 during its design process, and "What is your intent?" "The
16 intent is to comply with the process -- with the standard."

17 THE COURT: All right. So then does he get to
18 cross-examine him on, did they intend to comply with other
19 standards that you didn't ask?

20 MR. LoCOCO: I assume.

21 THE COURT: All right. All right. Let's bring
22 the witness back in and the jury back in.

23 MR. LoCOCO: I mean, subject to relevancy.

24 (Jury enters at 11:28 a.m.)

25 THE COURT: All right. Please be seated.

1 (Witness sworn.)

2 THE COURTROOM DEPUTY: Please state your full
3 name and spell your last name for the Court.

4 THE WITNESS: Robert James Kerila. K-e-r-i-l-a.

5 THE COURTROOM DEPUTY: Thank you.

6 MR. LoCOCO: May I proceed, Your Honor?

7 THE COURT: Yes, you may.

8 DIRECT EXAMINATION

9 BY MR. LoCOCO:

10 Q Mr. Kerila, tell the jurors your full name again.

11 A It's Robert James Kerila.

12 Q And please make sure to kind of scoot up so you can speak
13 into the mike. Where do you live?

14 A I live in Endwell, New York.

15 Q Which is where?

16 A It's upstate New York, farm country part of New York.

17 Q Who do you work for?

18 A I work for the Raymond Corporation.

19 Q How long have you worked for Raymond?

20 A Just over 30 years.

21 Q What do you do for Raymond?

22 A I am the engineering director for product and custom
23 engineering.

24 Q And is that your title?

25 A Correct. That's my title.

1 Q Dr. Rhoades was here earlier and he told the jurors he
2 thought you were chief engineer. Are you chief engineer?

3 A No.

4 Q Okay. Tell the jury about your educational background,
5 please.

6 A I have a bachelor's of science in mechanical engineering from
7 the Rochester Institute of Technology from 1991. It's my
8 formal education.

9 Q Are you a member of -- I'm sorry. Are you a licensed
10 professional engineer?

11 A Yes, I'm also a licensed professional engineer.

12 Q In what state?

13 A In New York state.

14 Q Now you told us that you work for Raymond. Can you give the
15 jury just a brief history of the jobs you've held over the
16 years to current?

17 A Sure. So I started at Raymond while I was still in college.
18 Part of the curriculum at my college is cooperative
19 education, so you go out and you work at some companies to
20 get some practical real world experience, and Raymond is one
21 of the places I did that at back in 1990, and then got
22 offered to come and work there full-time when I graduated.
23 So I took the job and started in the new product development
24 department, just as an entry level engineer, doing mechanical
25 design work, some component designing assemblies, working on

1 development of new trucks. One of the first ones I worked on
2 was actually the first dockstance counterbalance truck that
3 Raymond ever designed. I was responsible for a number of the
4 components of that truck, the design, the transmission, the
5 handle, did the vehicle dynamics analysis, did some of the
6 development designs, some of the mast elevating design.

7 Q Let me just interrupt you for a second. So this case
8 involves the 4250. What you're telling the jury is that you
9 were working on a predecessor version?

10 A Correct. Not the 4250. That didn't come out until many
11 years later, but this is back in the early '90s. This was --
12 we had made standup counterbalance trucks before that, but
13 they were of a different style. This was the first time that
14 we had made one of that style.

15 Q All right. So if you could just again briefly go through the
16 rest of your jobs.

17 A Sure. That wasn't the only truck I worked on. I worked on a
18 variety of different models that we make. Progressed through
19 the ranks, you know, promoted to higher levels, more
20 responsibility. Eventually I started running portions of
21 projects where I would have designers and drafters reporting
22 to me. I would have certain assemblies, components I was
23 responsible for all the engineering on. Eventually running
24 into higher projects that way. And then I moved to the
25 program management office where we have a fairly complex

1 process for running a development project. I was the person
2 responsible for the entire process. So obviously there's
3 lots of other people involved in that, but I've got to make
4 sure, you know, each group is doing what they're supposed to
5 do, things are going to get done on time, handoffs are
6 happening properly between groups, everything's getting
7 checked off.

8 Q What year is this?

9 A Probably '96, '97, something like that.

10 Q Okay. Next?

11 A Started Raymond full-time in '91. So around '99, I moved
12 into engineering management. I'd been leading groups before
13 that. Now I had direct reports, other engineers that I was
14 responsible for hiring for their career advancement for their
15 assignments, the things they were working on. Still in new
16 product development, still running, you know, new product
17 creation of new trucks in different categories.

18 So our industry is divided into different
19 classes of trucks. Raymond manufactures trucks in three of
20 those classes at one point or another in that progression. I
21 managed the development groups for every one of those
22 different classes. So I've kind of had my fingers on the
23 design of pretty much everything we make at one point or
24 another.

25 Q In 2014, what was your job?

1 A In 2014, I was in development for Class 3 products, which is
2 a different class than this truck.

3 Q Okay.

4 A And then shortly after that, I moved to product engineering,
5 somewhat like the role I have now but at a lower level, where
6 I was responsible for -- product engineering is our group
7 that's responsible for trucks that are presently being
8 manufactured or trucks that have gone out of manufacture but
9 the customers are still using, when there's any design
10 concerns with those trucks. So I moved into product
11 engineering shortly after that. I managed liability engineer
12 group for a while after that and then ultimately now I came
13 over to manage the entire product engineering and custom
14 engineering group in Greene at the director level.

15 Q All right. This -- as the jury knows, this case involves a
16 4250. Are you familiar with that model?

17 A Very much so.

18 Q When did it go on the market?

19 A It was first introduced in 2010.

20 Q Were you involved in that design?

21 A I was, yes. I was involved in the design of a lot of the
22 components of it earlier on that were adopted into the 2010
23 version, the 4250. But then I was involved in the project as
24 well in 2010.

25 Q All right. Could you tell the jury a little bit about the

1 history of Raymond?

2 A Sure. So we're in upstate New York in Greene, New York.
3 It's about halfway between Pennsylvania and Canada. Not the
4 New York City part of New York, but the middle of cow country
5 New York. We've been in existence almost a hundred years
6 now. We were founded by a man named George Raymond. He had
7 bought a local company that made farm implements, and then
8 eventually around the World War II era, when material
9 handling became a much bigger industry, he converted the
10 company over to material handling.

11 Still in Greene. We have been there our
12 entire time, and we've been kind of an innovator in the
13 industry ever since then, inventing entire parts of the
14 material handling industry that exist today, like
15 narrow-aisle trucks, narrow-aisle reach trucks, you know, the
16 wooden pallet, which you see -- if you go into any warehouse
17 or Home Depot or something, the wooden pallet, we invented
18 that way back in the day and then donated it to the industry
19 for free so that people could have some commonality on how
20 they picked up loads and moved them around. And we continue
21 there today, still technology innovator. We're still coming
22 out with things that, you know, other companies haven't done,
23 doing research, new product development continuously.

24 Q Where does Raymond have plants?

25 A Our primary plant is in Greene, New York. That's where the

1 headquarters is and we have another manufacturing facility in
2 Muscatine, Iowa.

3 Q How many people work at the Greene facility?

4 A There's about 1,100 people in Greene.

5 Q And how about at the Muscatine facility?

6 A Roughly 400 more people in Muscatine.

7 Q How would you characterize Raymond in the forklift industry?

8 A We're a leader in North America for sure, a technology leader
9 for sure. You know, we are -- we're at the leading edge of
10 the changes that are occurring in the industry. We kind of
11 have been for the entire time we've been in existence.

12 Q Where does the design engineering take place, Greene or
13 Muscatine?

14 A All the design engineering takes place in Greene. Muscatine
15 is a manufacturing facility.

16 Q Does Raymond have an engineering staff?

17 A Yes.

18 Q How large is it -- how large was it back in the 2010
19 timeframe?

20 A Roughly 140, 150 engineers back then.

21 Q And how about today?

22 A We're closer to 200 now.

23 Q What type of engineers does Raymond employ?

24 A Wide variety. It takes a lot of different disciplines to
25 create a forklift, so mechanical engineers like myself,

1 electrical engineers, software engineers, you know,
2 industrial and manufacturing engineers, because we're
3 manufacturing the trucks ourselves in Greene and in Iowa, and
4 there's a lot that goes into how to do that. You know,
5 systems engineers that can look at how all the pieces come
6 together, hydraulics engineers, test engineers, reliability
7 engineers, field service engineers, application engineers.
8 There's just a -- a lot of different moving parts that have
9 to come together to design and test and market a forklift
10 truck.

11 Q You mentioned software engineers. Why does the -- first of
12 all, do you need software engineers for the 4250?

13 A Oh, yes.

14 Q Why?

15 A Well, it's an electric battery-powered truck. Everything we
16 make actually is electric battery-powered. It's intended for
17 indoor use in warehouses. The controls on it, they may be
18 electrical, they may be hydraulic, but the operator, you
19 know, with single control handle and a steering wheel, they
20 give inputs to the truck, the software needs to interpret
21 those inputs. Then there's other controllers for the
22 electric motors. For instance, if the operator commands a
23 50 percent travel speed -- there's an onboard brain,
24 essentially a computer. That software has to be written for
25 that to interpret what the customer or what the operator's

1 asking for, and the command to the motor controller which has
2 its own software that then sends a current demand to the
3 battery to send so much current to the motor to cause the
4 motor to spin to ultimately get that speed that the
5 operator's asking for.

6 Q Does Raymond have any facilities in the Greene plant that
7 assist the design engineers?

8 A Yes.

9 Q What?

10 A We have a full-blown test lab there, actually a couple of
11 them. One right in the main facility, another lab off-site
12 at a different facility down the road, where we do -- we do
13 all the development testing of the trucks that we're
14 developing for either manufacture in Greene or in Iowa.

15 Q Does the test lab include different types of environments?

16 A Sorry. Yes, it does.

17 Q Like what?

18 A Well, you know, a good portion of our customers are in
19 seafood manufacturing or distribution, so things like a blast
20 freezer. We sell all over the country, so, you know, things
21 where we can simulate hotter conditions like you might have
22 in the south or humid conditions, that kind of thing. And
23 then lots of different ways to simulate different customer
24 warehouse applications and how they're going to use the
25 truck.

1 Q All right. At times, does Raymond ask other engineering
2 firms to assist in design efforts or testing?

3 A We do, yes.

4 Q Why would you do that sort of thing?

5 A There's an awful lot we can do ourselves at our facility, but
6 we can't do everything. You know, there's just some areas
7 where we don't have the tools. We don't have, say, a
8 standing electron microscope, or just don't have the
9 expertise where it makes more sense to find another
10 engineering firm out that that concentrates on that thing.
11 You know, RF testing, radiofrequency testing, for instance,
12 where they have the facilities to do that, they have the
13 skill set to do that, it's what they do all the time. Yes,
14 we want to design our truck for that, we want to make sure
15 it's tested to comply with that. It's just better to partner
16 with people who are experts in that area.

17 Q Now just before you testified this morning, Dr. Rhoades was
18 here and we heard from him earlier this morning. He talked
19 about a project involving the 4250, and I believe he said
20 that you called him. Did you call him and ask him for his
21 assistance?

22 A I don't know if I called him directly. I was working through
23 another group that I think reached out to him initially.

24 Q All right. Tell us how that work that Dr. Rhoades did for
25 Raymond came about.

1 A Sure. So the 4250 had already been existence for quite some
2 time. But, you know, part of the process that we go through
3 in developing a truck is we test it at customer sites, and
4 that involves going out, watching trucks, you know, following
5 people around the warehouse, what are they doing,
6 interviewing operators, that kind of thing. We get a lot of
7 feedback that way.

8 But I had learned that there was some new
9 technology available, that you could outfit an operator with
10 wireless technology. Very, you know, benign things that the
11 operator wouldn't even notice, they were wearing. And you
12 could gather a lot of -- a lot more rich data on what they
13 were doing. Instead of just following them around a
14 warehouse, interviewing them to get their feedback, you could
15 actually get hard engineering data on, you know, where their
16 feet are, how hard are they pressing here, or are they
17 leaning, are they doing -- how do they react when the truck
18 does different things.

19 I learned about that technology from another
20 firm, and I said, "Sounds like a neat way to either confirm
21 or deny the things that we've learned from talking to
22 operators over the years." So I decided I wanted to pursue
23 that. I asked them if they could find an ergonomist then to
24 interpret the data that we were going to gather from that
25 exercise.

1 Q All right. I want to switch gears and talk a little more
2 specifically about the design process at Raymond, which you
3 mentioned earlier. First of all, does Raymond follow a
4 prescribed process for designing products?

5 A Yes, we do.

6 Q And is that a process that's followed just on new designs, or
7 something other than new designs? Tell us when the process
8 is followed.

9 A We have different processes for pretty much everything we do
10 there. For new designs, we have a new product development
11 process, very detailed process. We'll follow that for any
12 new truck design. If it's, you know, clean sheet of paper or
13 if it's just a variation on a prior truck, we'll follow that
14 process for a new clean sheet of paper, we'll do everything
15 in that process for something that's a variation on a prior
16 one. We may just do portions of it.

17 Q All right. I want to pull up Exhibit 538-7. So what are we
18 looking at here from the perspective of the design process,
19 Mr. Kerila?

20 A So this is a high-level -- basically a schedule chart showing
21 the different major phases of the development process that we
22 follow.

23 Q All right. Could we blow that up, please? All right. So on
24 the far left side, it starts with something called Phase 0,
25 and on the far right, it's Phase VI. So what is Phase 0?

1 A Phase 0 is concept evaluation. It's basically -- it's the
2 back of the envelope part of the project. You know, what
3 ideas do we have for a new product? You know, it could be
4 somebody from sales or marketing that went out and talked to
5 customers, what is it you're trying to do? It could be
6 something that came out of the engineering research
7 department. Hey, we have this new technology. Is there a
8 way to commercialize this and make it useful? Phase 0 is
9 where all that -- all the ideas kind of get thrown out on the
10 table. What is it that the companies interested in trying to
11 explore, commercializing into a product?

12 Q Was this process that we see here followed for the 4250?

13 A It was. In fact, this slide at the top, it said it was a
14 summary of the 4250 itself.

15 Q All right. And then Phase II is what? I'm sorry, Phase I.

16 A Phase I. Sorry. Yeah. Is feasibility. So in Phase 0, kind
17 of anything goes. You know, you can put any kind of idea out
18 on the table. In Phase I, that's when we sharpen the
19 pencils. We sit down and say, "Okay, we can't do a flying
20 lift truck. We can't do this. We can do this. Maybe we're
21 going to change that a little bit from the original concept."
22 But that's where we're -- or, you know, "Maybe we can do
23 that, but it's going to cost so much and take so long to
24 develop that it's not going to be worth it in the end," kind
25 of thing. So that's kind of like the phase where we filter

1 the parts of the -- or the ideas that we can do from the ones
2 that probably don't make sense to commercialize.

3 Or sometimes, actually in that one, we'll say,
4 "You know what? It's kind of a neat idea, but we really --
5 it's more like research. We don't want to do research in the
6 development -- or in the middle of a development project."

7 So sometimes we'll take an idea in the feasibility phase and
8 send it off to the research department so you guys kind of
9 game that out more before it comes back to be commercialized.

10 Q Actually, I'm not going to write everything down because we
11 got it right here.

12 A Yeah.

13 Q So what's the next phase, which is known as Phase II?

14 A It's the planning phase, so --

15 Q Which involves doing what?

16 A Now we create what's called a functional specification. This
17 is exactly what the project's going to accomplish. These are
18 the parts that are going to change. These are the
19 performance levels that the customers want. The truck has to
20 pass these -- you know, has to be able to lift so fast and
21 move so many loads an hour and very specific on what the
22 expectations are for the customer, so that when we come out
23 of that phase, we know what we have to do in order to
24 succeed, and then also put together the hard schedule and the
25 budget. What's it going to take to do this thing, how long

1 is it going to take, how much is it -- how much is it going
2 to cost, how many people will it take to accomplish and what
3 kinds of people, you know, what kinds of engineers, what
4 other departments will need to be involved, that kind of
5 thing.

6 Q The way your system is set up, can Raymond move to Phase II
7 before finishing Phase I?

8 A We can start Phase II.

9 Q Right.

10 A But this is what's called a phase-gate process. So at the
11 end of each phase is a gate, a virtual gate, that there's a
12 list for each phase. These are all the things that have to
13 happen in this phase before the phase can close. So we may
14 get started on some of the pieces of the next phase, but we
15 have to have a formal meeting before the executives to end
16 each phase. And I think this particular slide here is the
17 end of Phase IV, where they were meeting to say, "Hey, we
18 think we've checked off everything that's going to be
19 necessary to launch this, to introduce it to the market so
20 they can start talking to customers about it." This was
21 the -- they were asking permission of the executives for the
22 okay to do that.

23 Q All right. So the first three phases, has any testing been
24 done yet?

25 A Actually I'm sorry, this is permission to ship. We are here

1 in this step point.

2 Q Yeah.

3 A So at Phase III -- I'm sorry, say it again.

4 Q So through the first three phases, which is actually
5 Phase II --

6 A Yes.

7 Q -- have you done any testing yet?

8 A No. It's all paper and concept.

9 Q What's Phase III, which is actually the fourth phase?

10 A Phase III is the longest phase. That's when we turn the
11 ideas into designs to, you know, electronic models, to
12 prototypes. We do all the testing. We do redesigns after
13 the testing. We do field testing. We do, you know,
14 everything from a piece of paper at the beginning to a fully
15 functional truck that will ideally do exactly what the
16 functional specification wanted us to get done.

17 Q All right. So that's all in Phase III?

18 A Right.

19 Q I'm going to come back to that. What's the next phase? IV?

20 A Phase IV, after we've completed the test phases, Phase IV is,
21 get the documentation ready so this thing can be mass
22 produced, essentially. Right? We've only made a few dozen
23 trucks up to that point that we've used for our own
24 engineering purposes. In Phase IV, we're getting all the
25 manufacturing documentation, getting the manufacturing line

1 prepared, getting all the standard work for how it's going to
2 be put together and tested on the line, completed in that
3 phase.

4 Q That's Phase IV, which is actually the fifth phase. Now you
5 said in the prototype in this design, develop, test,
6 Phase III, you've only made a couple of dozen trucks?

7 A Usually, right.

8 Q By the way, how many trucks -- how many 4250s have been made
9 since 2010?

10 A About 31,000.

11 Q All right. So then what's Phase V?

12 A Phase V -- the other thing I forgot to mention in Phase IV is
13 launch. So while the engineers are busy, the manufacturing
14 people are busy, the people who are going to market are busy
15 as well putting together their material to explain this new
16 thing to customers, that's what permission to launch is.
17 Have we checked all the boxes? Are we ready to let the
18 market know this truck exists? Once that's accepted, we move
19 to Phase V, production, and we start taking orders and we
20 start making trucks and selling trucks.

21 Q And the last phase, Phase VI, what is that?

22 A Phase VI. So after Phase V, or in Phase V, we are in full
23 production. We're selling the trucks to the market. But six
24 months to a year after we've started building trucks is
25 Phase VI. We stop, we go back, we look at the people who

1 have been early purchasers of the trucks. We go out, we
2 interview them, we get feedback from them. And then we look
3 at the entire process back to Phase 0 and say, what did we do
4 well, what did we do poorly, what can we do better next time,
5 what can we learn from the customers, are they happy with
6 what -- you know, they told us in Phase 0 that they wanted.
7 They got it in Phase V. Or ultimately, did they enjoy what
8 they got? Are they going to, you know, come back and buy
9 additional ones?

10 Q All right. So I want to focus back now on Phase III when you
11 get to the point where you're actually making some
12 prototypes. Is that the phase where you do prototyping and
13 lab testing?

14 A Yes.

15 Q All right. What kind of testing is done with the prototypes?

16 A Lots of different things. So, you know, performance testing
17 probably is the first thing. Right? Customers are going to
18 use these trucks. They're going to want them to be eight,
19 ten hours a day or three shifts a day. They're going to want
20 the battery to last a certain amount of time. They're going
21 to carry certain loads, so many of them an hour, loading this
22 many tractor-trailers, that kind of thing. Truck wants to go
23 this fast, it's got to stop that quick, it's got to lift this
24 fast, so that kind of performance testing. We'll do
25 endurance testing of components or some assemblage of the

1 truck.

2 So part of the challenge in Phase III, we've
3 got, you know, six, eight, 12 months to do all the testing
4 for a truck that's going to last ten years. You can't put
5 ten years of testing on a single component in eight months,
6 so we'll do accelerated life testing. We'll overload things.
7 We'll build fixtures that just run day and night, beating
8 stuff up and seeing, are we going to crack a weld, are we
9 going to break a part, that kind of thing. So performance
10 testing, that endurance testing.

11 And then standards compliance testing. So
12 there's a number of different industrial standards the truck
13 needs to comply with. We can do that testing for the most
14 part. Some of those other -- we hire can do some of that for
15 us too, but is the truck -- you know, some of those things
16 you don't need to test. Other things, you need to perform a
17 test to say yes, the truck is going -- looks like it's going
18 to comply with that part of the standard.

19 Q Does --

20 THE COURT: Let me stop you. It's five minutes
21 to 12. And so I know we have a while to go with this witness.
22 I think now is a good time to break for lunch. We will come
23 back at 10 after 1.

24 So remember, ladies and gentlemen, you're not to
25 discuss this case amongst yourselves or with the parties.

1 You're not to do independent research, get on the internet and
2 try to look up matters or individuals relevant to this case.

3 We are in recess until 1:10.

4 (Jury exits at 11:55 a.m.)

5 (Recess from 11:55 a.m. to 1:11 p.m.)

6 THE COURT: Let the record reflect that we are
7 outside the presence of the jury. I inquired before we went on
8 the record if this witness was going to testify with respect to
9 the matters contained in Matthew Darney's deposition and FedEx's
10 consideration of whether or not to, after this accident,
11 retrofit its equipment with laser devices that would deploy the
12 brake if, because I understand it, part of the body was moved
13 through the laser itself.

14 MR. LoCOCO: Yeah. So he's not going to talk
15 about the post-accident part. He will testify that that feature
16 is available to customers, that it was made available to FedEx,
17 and that FedEx didn't buy it when the truck was purchased.
18 That's it.

19 THE COURT: Well, how is it relevant that FedEx's
20 negligent?

21 MR. LoCOCO: Pardon me?

22 THE COURT: How would it be relevant that FedEx
23 declined to purchase a safety feature?

24 MR. LoCOCO: Well --

25 THE COURT: Isn't that burden-shifting? Aren't

1 you trying to say, "Well, it's all FedEx's fault"?

2 MR. LoCOCO: Mr. Warshauer opened the door when
3 he was asking questions of both Mr. Rogers and Dr. Meyer about
4 having a laser, and then Mr. Warshauer also opened the door this
5 morning with Dr. Rhoades talking about this as an available
6 feature.

7 THE COURT: That doesn't open the door to -- that
8 doesn't open a door to FedEx's decision not to have a safety
9 feature for its employees. The only relevance is that -- as I
10 see it, the only relevance is that it establishes that having
11 this feature is feasible on this piece of equipment.

12 MR. LoCOCO: Well, it does --

13 THE COURT: So you can't come in and say that's
14 not feasible, that was -- because your criticism of their point
15 was they didn't do any testing. They didn't even do design. If
16 you have it on your equipment, if you have it on your equipment,
17 then they don't have to do a bunch of testing and stuff to prove
18 that it's feasible.

19 MR. LoCOCO: We were never challenging the
20 feasibility, Your Honor. Secondly, Mr. Kerila will explain that
21 it's a training tool. It's not seen as a safety feature per se.
22 And I think it is relevant that it was available in this
23 circumstance. Now they can --

24 THE COURT: But it's -- but here's what -- how is
25 it relevant that after the fact, FedEx -- nobody's come in here

1 and testified, "Here's what FedEx did and it's X investigation."
2 And because we don't have that kind of foundation, I don't know
3 how it's relevant that they -- whatever their conclusions were
4 after the fact. And how does it not violate the subsequent
5 remedial measures rule or Rule 407, the fact that FedEx decides,
6 "Well, there was a safety -- there was safety equipment we could
7 have had on here, but we didn't buy it to begin with, and we
8 elect not to spend the money to retrofit all of our stuff."

9 MR. LoCOCO: Your Honor, that's why we filed the
10 brief we did last night. Ms. Heitkamp can speak more to the
11 law, but the law is very clear that Rule 407 doesn't apply with
12 respect to a nonparty like FedEx. It just doesn't apply. The
13 case law in the Seventh Circuit and six or seven other circuits
14 are clear that Rule 407 is not a reason to keep this information
15 out. So that can't be a basis for excluding it.

16 As far as the -- the foundation is being laid by
17 Matthew Darney. He's their person in charge of environmental --
18 environment health and safety. He's going to testify that they
19 looked at this in the context of this accident and chose not to
20 put it on. The best warning in the world they could have had
21 was Mrs. Anderson's accident, and they still didn't want it. I
22 think that's extremely relevant because it goes to further
23 support Mr. Rogers' claim -- Mr. Rogers' opinions that a
24 second -- that this laser or a second pedal would have made no
25 difference whatsoever in this circumstance. It's extremely

1 relevant.

2 MR. ABBOTT: Your Honor, just to have a quick
3 response on that. For the subsequent remedial measure on the
4 cases where they say a nonparty subsequent remedial measure is
5 relevant, the issue is that the nonparty has to sort of be
6 acting independently of one of the parties. That's where you
7 have the circumstance where the policy considerations under 407
8 wouldn't apply, if you have a nonparty making a subsequent
9 remedial measure that's independent -- that could be made
10 independent of the parties in litigation. That's not the case
11 here.

12 Exploring the option of this laser, the OCSS,
13 necessarily involves those discussions with Raymond.
14 Additionally, any relevance it has is substantially outweighed
15 by the risk -- by the risk of prejudice, because Raymond has a
16 nonnegligible duty to produce a machine that is not unreasonably
17 dangerous. To try and sort of shift the burden to FedEx on what
18 features to include to make this machine not unreasonably
19 dangerous is trying to skirt under from where their legal
20 obligations are under a strict liability product case.

21 And their -- and even the Southern District -- I
22 don't have the citation in front of me, but Southern District of
23 Illinois case that they cited, there they discuss the fact that
24 a nonparty subsequent remedial measure may not violate 407, but
25 their Court even noted there, under relevancy, at a risk of

1 unfair prejudice, you still have to consider whether or not this
2 evidence should come in. And there's no one here that can offer
3 evidence as to FedEx is somehow negligent for not including this
4 feature. And that's essentially what they're trying to argue to
5 this jury.

6 MS. HEITKAMP: So, Judge, that -- a couple of
7 things. One, that's not true. We're not -- this evidence isn't
8 being offered to show any negligence by anybody. Plaintiffs
9 have put in front of this jury through multiple witnesses
10 information about a light curtain, laser lights, talking about
11 the open operator compartment. That's not a design defect
12 that's actually in this case. The two design defect issues that
13 are before this jury are the steer tire guard and the second
14 pedal. Nothing's been addressed with respect to light lasers as
15 far as what the jury's actually going to have to consider, and I
16 think that is important to consider when you're doing the 403
17 balancing that they're referencing.

18 The Seventh Circuit case, that's the Lolie case,
19 that's 502 F.2d 741, is the case that we discussed in the trial
20 brief we filed last night. There's simply nothing in there that
21 talks about the involvement or uninvolved of one of the
22 parties to litigation. That case actually did involve a
23 post-accident investigation and ultimate conduct by a nonparty,
24 and that's where the Seventh Circuit addressed it and said that
25 nonparty conduct after an accident is not barred by 407. 407

1 simply has no application there. There's no basis for
2 Mr. Abbott's argument that Raymond had any involvement in FedEx
3 Supply Chain's post-accident decisions. And the -- I think the
4 Lolie case along with the seven or eight other circuits that
5 find that nonparty conduct is not subject to Rule 2 -- subject
6 to exclusion under Rule 407 simply shows that 407 doesn't apply
7 here.

8 MR. ABBOTT: Your Honor, I'll just point you to
9 the case from this Court that they cited, the DWK v. Abbott
10 Labs, 87 F. Supp. 3d 916. And there the Court noted, even if
11 you take away the 407 analysis, the 407 analysis we think still
12 applies because the only way to get into this light curtain is
13 for it to come from Raymond. They can't get this light curtain
14 just on their own. They can't make this modification on their
15 own. They have to go through Raymond in order to get the
16 modified machines that they're -- we're discussing.

17 Even if you discount that, under the 403 analysis
18 including this, essentially puts into evidence the idea that
19 FedEx somehow breached some duty or obligation to consider the
20 safety features for this machine, which only Raymond has --
21 Raymond's the one with the duty here to produce a machine that's
22 not unreasonably dangerous.

23 I'm not finished.

24 MR. LoCOCO: I'm sorry.

25 MR. ABBOTT: And by putting in this evidence, if

1 the evidence is going to show FedEx's negligence, what's the
2 relevance of it? What is the purpose of this evidence if it's
3 not to show FedEx's negligence? Especially as it relates to --
4 if they want to get something as to when they purchased the
5 machine, we think that's also not relevant, but there might be
6 some argument there. But as to specifically what they did
7 afterwards, how is all of that relevant, unless you're trying to
8 put in FedEx's duty or lack of due care in terms of their
9 decision -- their purchasing decisions on these machines?

10 And that's particularly concerning because one of
11 the reasons that Mr. Darney pointed out in his deposition as to
12 why they didn't purchase this is because the machines, it seems
13 to indicate, belonged to the Pinnacle Foods, who they had the
14 contract with, and not necessarily FedEx itself. That was one
15 of the factors that actually went into why they didn't make this
16 change.

17 MR. LoCOCO: We've designated all of that, all
18 that explanation.

19 MS. HEITKAMP: Yeah. And, Judge, what I think
20 hasn't been addressed here from the plaintiffs is they've put in
21 front of the jury evidence that leaves the impression that this
22 is a defect, and there's no evidence that they've presented --
23 they didn't present any expert evidence from Dr. Meyer,
24 Dr. Jeka, Dr. Kerrigan about this light laser as it relates to
25 this accident. And so they've left the jury with nothing but

1 something that can confuse the jury when it's sitting there
2 trying to answer the questions that it's actually going to be
3 charged with answering in this case. And I think that Raymond
4 is entitled to present evidence that responds to this issue that
5 plaintiffs have raised over and over and over with multiple
6 witnesses, without actually explaining to the jury anything
7 about how it relates to this accident, their claims here. And
8 that's where Mr. Kerila's testimony and the designations from
9 Mr. Darney marry up to reduce this confusion that the jury
10 likely has.

11 MR. LoCOCO: And at the very least, Your Honor --
12 I think Mr. Abbott almost said this himself -- we should be able
13 to explain our process for making this feature available to
14 customers who can then decide -- again, Raymond presents it as a
15 training tool, not as something to prevent something like
16 Mrs. Anderson's accident.

17 THE COURT: But what happens if somebody's foot
18 goes through the laser?

19 MR. LoCOCO: Mr. Kerila would explain that the
20 truck would sound an alarm, put a display on the operator
21 display, and begin to slow. It doesn't have the brake come on.

22 MR. WARSHAUER: It can have the brake come on.
23 It says it right in the patent. That's a design choice.

24 MR. LoCOCO: That's his cross-examination. But
25 what -- what actually works in the real world, Your Honor, is

1 that it will start to slow, the same way the Crown present
2 sensor switch works, that there's no brake there. Right?

3 MR. WARSHAUER: On the right foot.

4 MR. LoCOCO: On the right foot. On the right
5 foot, the Crown presence sensor is a one-second delay, and then
6 it starts to slow. It doesn't slam the brakes on. Raymond has
7 this feature available, where the laser is broken or the photo
8 beam is broken, and the truck sounds an alarm, it starts to
9 slow. It's a training tool. "Hey, get your foot back in the
10 compartment." That's what Mr. Kerila would explain to the jury.
11 And he'd explain the process for making sure that every customer
12 has access to this information before they buy a truck.

13 MR. WARSHAUER: That doesn't answer the question
14 of Mr. Darney. In fact, it pretty much does answer the question
15 in the plaintiff's benefit, which is to the extent the process
16 by which it gets on the truck is left to the customer. It's at
17 the front end, not the back end, Judge, and they don't have
18 anyone from -- involved in the sale who did the explanation for
19 why or why you would not get it, why the actual owner of the
20 truck, which is not FedEx, made that purchasing decision. Were
21 they misled as to its characteristics? Were they told not to
22 buy? Were they told it was a service hassle? None of that is
23 there.

24 Our defect isn't the lack of a pedal. Our defect
25 quite clearly is a machine that does not stop when the operator

1 leaves the operating position. That's been our case. This is
2 simply a feature that can be, according to the patent, which is
3 in their exhibit file, according to the abstract and the actual
4 words of the patent, it can be programmed to stop. That's an
5 available thing the jury might want to consider when deciding
6 whether or not the design as delivered was unreasonably
7 dangerous, given how simple it was, since 1980 when they got
8 their patent, to change the operating characteristics.

9 MR. ABBOTT: And Mr. Darney wasn't even at FedEx
10 when this machine was purchased. He can't offer any information
11 to the jury as to the circumstances behind --

12 THE COURT: But my understanding is that it's
13 owned by Pinnacle, not by FedEx.

14 MR. ABBOTT: Yeah.

15 MR. WARSHAUER: Right.

16 THE COURT: And is it true that Pinnacle, not
17 FedEx, purchased it?

18 MR. WARSHAUER: They own the machines.

19 MR. LoCOCO: They're just saying that, Your
20 Honor. I don't think --

21 MR. ABBOTT: Mr. Darney says that. It's part of
22 the analysis of the discussion is the fact that Pinnacle is the
23 one who owns the machines.

24 MR. LoCOCO: Which gets to the point we're
25 making, Your Honor. We don't care whether it's Pinnacle or

1 FedEx Supply Chain. The purchaser did not want this feature.

2 And after --

3 MR. WARSHAUER: I'm sorry. Call the purchaser.

4 MR. LoCOCO: We know that the purchaser didn't
5 buy the feature so this feature was not on the truck when it was
6 shipped, and another feature that's in the brochure was on the
7 truck when it was shipped. So we have circumstantial evidence
8 at the very least that -- plus they have an ironclad process for
9 making sure this brochure gets out to customers. After the
10 accident, Mr. Darney, who's their environmental health and
11 safety guy, said, "We looked at this feature and we decided
12 against it for cost because we thought Pinnacle owned it, owned
13 the truck anyway, and because we didn't think it would have made
14 a difference on high-speed accidents."

15 So we're really talking about two different
16 things, what happened pre-accident when the truck was sold and
17 then what happened after the accident. We're not trying to
18 claim that Pinnacle or FedEx was negligent. We're saying that
19 this feature was available and it wasn't on the truck. Now they
20 can ding us for it not having it be a standard feature, but, you
21 know, that's cross-examination.

22 THE COURT: All right.

23 MR. ABBOTT: And --

24 THE COURT: Hold on.

25 MR. ABBOTT: Okay.

1 THE COURT: Federal Rule of Evidence 407 reads:
2 When measures are taken that would have made an earlier injury
3 or harm less likely to occur, evidence of the subsequent
4 measures is not admissible to prove negligent, culpable conduct,
5 a defect in the product or its design, or a need for a warning
6 or instruction. But the Court may admit this evidence for
7 another purpose, such as impeachment or, if disputed, proving
8 ownership, control, or the feasibility of precautionary
9 measures.

10 I don't know what information Raymond gave after
11 this accident in which someone loses a leg operating a Raymond
12 forklift. I don't know if they undersold this safety feature.
13 We just don't know. FedEx -- do we have anybody coming in and
14 saying that this was a high-speed incident? I don't think we've
15 had anybody testify to that. And if it's high speed, that opens
16 up another can of worms, it seems to me.

17 MR. ABBOTT: I --

18 THE COURT: But to allow this guy to come in --
19 how is it not hearsay?

20 MR. LoCOCO: Because he's more than a hundred
21 miles away. He's in Iowa -- Ohio.

22 THE COURT: So a hundred miles away is an
23 exception to the hearsay rule?

24 MR. LoCOCO: It's a use of a deposition in court,
25 Your Honor, which is permitted if the witness is unavailable.

1 "Unavailability" is defined as being more than a hundred miles
2 from the courthouse.

3 MR. ABBOTT: Your Honor --

4 THE COURT: Making retrofits to a truck he
5 doesn't own or FedEx doesn't own? I'm not -- it seems to me
6 that the impact of this could cut one of two ways. It could
7 say, "Well, look, the ones who are at fault were the people that
8 bought this equipment to begin with and they didn't have the
9 safety device on it. And then when we brought it to their
10 attention after or reminded them after their accident, that,
11 yeah, there is this safety feature, they still decided they
12 didn't want to retrofit the trucks and incur those additional
13 costs." I think it's more likely to confuse the jury or be more
14 prejudicial than it is probative. So I'm just inclined to allow
15 it.

16 I mean, what -- I mean, it's relevant to the
17 issue that the safety equipment was feasible, but you're not
18 putting it in for that reason. You want to put it in and -- is
19 he going to say, "Well, this is really just a training aide;
20 it's really not a safety feature. It's just a training aide.
21 It's like training wheels for a forklift operator, and once he
22 got a hang of things, we can take it off"? I mean, you have a
23 non -- the safety issues are nondelegable.

24 MR. LoCOCO: We're confusing negligence and
25 strict liability at this point.

1 THE COURT: I'm not confusing negligence and
2 strict liability. The -- it's -- if there's a safety feature
3 that makes the product safe and you decide not to put it on, the
4 standard equipment absence is showing that there was a
5 compelling reason not to put it on there. I mean, the jury
6 could consider that to be a defect at the time delivered. I
7 mean, I -- go ahead.

8 MR. LoCOCO: Mr. Warshauer brought up this
9 feature of the Operator Compartment Sensor System this morning
10 with Dr. Rhoades, knowing that Dr. Rhoades didn't look at it.
11 All we want to do, Your Honor -- I mean, I understand I guess
12 your ruling that you don't want your -- your dispose not to
13 allow Darney's testimony, so I'm putting that in a box for a
14 second. But certainly Mr. Kerila should be able to address this
15 feature, what it does, what its intent is, and how Raymond
16 markets it and how it was marketed here, instead of it just
17 sitting there like a lump of coal based on Mr. Warshauer's
18 innuendo. That's just not fair. We need to be able to put it
19 into context for what this feature is and what it isn't.

20 The last thing I'd add, Your Honor, Mr. Rogers
21 was here Friday. He was very clear that a brake under the left
22 foot would have made absolutely no difference in this case,
23 so --

24 THE COURT: But they can accept that or reject
25 that.

1 MR. LoCOCO: Exactly. But the -- exactly. But
2 the point, Your Honor, is that this OCSS, the Operator
3 Compartment Sensor System, doesn't give you that much -- it
4 doesn't give you the braking performance that Mr. -- Dr. Meyer
5 wants is giving you. So we're not -- they're not even saying
6 that this feature would have prevented Mrs. Anderson's accident,
7 because they want a brake under that foot. And Mr. Warshauer's
8 point is, the patent, which we didn't identify as an exhibit --
9 he certainly can cross-examine with it, the patent. His point
10 is the patent is set up so you could have made this become a
11 brake. Right? Again, if he gets to cross-examine on this
12 feature, we get to explain it.

13 THE COURT: I think -- I think the -- he can
14 explain to the jury what the feature is. My concern is putting
15 into evidence that after the fact, FedEx looked at retrofitting
16 equipment that belonged to a different customer. We have no
17 context of what that cost would be. Was it 5 bucks per unit, or
18 was it 5,000 per unit? We don't have any context in that. And
19 so that's what -- that's what -- and that's what I'm concerned
20 about.

21 MR. LoCOCO: All right. So look, I -- so the
22 record's clear, we disagree with the Court's ruling, but I
23 understand it. And we will not get into with Mr. Kerila any
24 question of what happened post-accident or post-sale, really,
25 with regard to this feature. And I think that probably also

1 handles the motion we filed to overcome their objections,
2 because the key things were the items that the Court's concerned
3 about. So I think having put it up on -- we'll look at this to
4 see if we have to put it actually in the record as an offer of
5 proof. But we understand the Court's ruling, and so I'll stay
6 away from that with Mr. Kerila.

7 MR. ABBOTT: And we have no problem with those
8 parameters. Our issue was simply, have it in the record,
9 post-accident discussion as to the facts with Mr. Darney, you
10 know, so. If they want to limit it to --

11 THE COURT: Well, was there any objection to just
12 using your -- you had highlighted in your -- what you had
13 submitted to the Court, certain pages of -- I guess that you
14 were going to read, wasn't every page of Mr. Darney, but you
15 were going to read in highlighted portions into the record. Was
16 that how you were going to do it?

17 MR. LoCOCO: Yes, Your Honor.

18 THE COURT: All right.

19 MR. LoCOCO: We'll take another look at it to see
20 in the context of your order if there's anything else we want to
21 read in.

22 THE COURT: All right. Let's bring the jury out.

23 MR. ABBOTT: Thank you, Your Honor.

24 (Jury enters at 1:38 p.m.)

25 THE COURT: All right. Please be seated. Thank

1 you. All right. Thank you for your patience, ladies and
2 gentlemen. All right.

3 Sir, you are still under oath. And we are still
4 in your direct examination of the witness.

5 Mr. LoCoco, please proceed.

6 MR. LoCOCO: Thank you, Your Honor.

7 BY MR. LoCOCO:

8 Q So I think where we left off this morning was we were talking
9 about some of the testing that was done in the lab
10 prototype -- with prototypes. Let's take a look at -- really
11 want to just focus on the form of Exhibit 537.

12 A Okay.

13 MR. LoCOCO: And, Your Honor, Mr. Warshauer knows
14 what's coming up, so.

15 BY MR. LoCOCO:

16 Q There we go. So what is this form that we're looking at?
17 It's got a lot of stuff on it. I just want to focus on the
18 form.

19 A Right. This is a night driving sheet.

20 Q Okay. So you can take it down now for a second. So what is
21 a night driving sheet?

22 A So it was one of the other things about testing we didn't
23 quite get to this this morning that we do. We have drivers
24 employed second and third shift and on the weekend as well.
25 So we'll work on design, putting prototypes together during

1 the day, and then we have drivers do customer-simulated
2 driving, second shift, third shift, weekend shift. While
3 we're doing the development, we put the prototypes through
4 that testing. After, you know, we've gone out and looked at
5 what actual customers do, you know, measure how many loads
6 they're moving, the weight, and that kind of thing, and then
7 our operators will put the trucks through those paces in our
8 own lab.

9 Q Now is the facility where they're doing this driving, is it
10 a -- describe it. Is it concrete floors?

11 A Yeah. It's like a typical warehouse. There's other parts of
12 it that have, you know, specialized test equipment, but then
13 the part where the drivers drive is just like a regular
14 warehouse. It's concrete floors.

15 Q Do they have cracks? Does it -- do the floors have cracks
16 and seams?

17 A Absolutely.

18 Q Do these drivers know they're going to be going over those
19 things?

20 A I mean, in that every concrete floor in a warehouse kind of
21 has cracks and seams, yes, but not, you know, exactly where
22 they are or when they're going to go over them or anything
23 like that.

24 Q All right. So the form that we were looking at, is that --
25 who fills that out?

1 A The drivers fill one of those out for each shift that they
2 drive.

3 Q And what are they supposed to do?

4 A They'll get some instruction at the beginning of the shift.
5 We want you to do a simulated tractor-trailer load, we want
6 you to do a lot of lifts this shift, that kind of thing,
7 whatever their instructions are. And then any observations
8 that they have with the truck, if there's any anomaly,
9 anything that's odd to them, anything out of the ordinary,
10 error codes, batteries draining too fast, it seems like
11 something's overheating, any kind of feedback. And then in
12 the morning, the engineers will gather up those, they'll have
13 a meeting in the morning, go through the results of the night
14 driving, and then that informs how the engineers are going to
15 spend their time looking at tweaking design changes.

16 Q Are there any specialized tracks in the lab for the night
17 drivers to do their work?

18 A There are some, yes.

19 Q Like what?

20 A Well, one that we used extensively on the 4250 project is
21 basically a rumble strip. It's a big set of steel bars,
22 different heights and different widths, that we lay down on
23 the floor. When we really want to accelerate the testing of
24 a component that's, you know, being driven on bad floors or
25 being driven into and out of the over-the-road trailers a

1 lot, we have the drivers go over this because it -- we can
2 get a lot of cycles of, you know, whatever part of the truck
3 we're trying to test in those very hard vibration kind of
4 applications.

5 Q All right. Let's take a look at 552.

6 (Video played.)

7 MR. LoCOCO: Can you stop it, please?

8 BY MR. LoCOCO:

9 Q So what are we seeing here in this video here, 552?

10 A So the top half of it is a tractor weldment, the back half of
11 the Model 4250.

12 Q When you say "top half of it" -- you can draw on this thing.

13 A Okay. This here is a 4250, the back of a 4250. The steer
14 tire's here, the operator compartment is here, or at least
15 part of it is, and this is on what's called a dynamometer.
16 So the dynamometer is this silver rolling thing here that's
17 embedded in the floor that rolls around, and that way, you
18 can essentially do simulated travel testing on a truck that's
19 sitting still. And in this particular one, the dynamometer
20 also has those kind of bars attached to it so that we're, you
21 know, essentially simulating the truck going over -- really
22 over dock boards. Dock board is the transition between a
23 building and an over-the-road trailer. That's where these
24 things are used a lot. That's where we're trying to get a
25 lot of cycles at a time on this endurance fixture, to test,

1 is any of the welds going to break or any of the components
2 of the operator suspended floor going to break, that kind of
3 thing. If you run it, you see the operator floor is going up
4 and down with each bump too. It's -- it's an isolated
5 operator floor.

6 (Video played.)

7 THE WITNESS: That weight is simulating the
8 weight of the operator. So we welded in a weight that's the
9 weight of an average operator so that you get the proper
10 response of the system that you would if there was a real person
11 standing there. And this isn't even a prototype. I would call
12 this like a breadboard kind of truck. It's very roughly put
13 together. There's -- you know, some components probably aren't
14 completely there in the weldment, just so that it's easier to
15 instrument and test it.

16 BY MR. LoCOCO:

17 Q You mentioned that this is a way to get a lot of cycles done?

18 A Right.

19 Q Ultimately how many cycles were done with this test fixture?

20 A This one, we ran multiple samples, at least a million cycles,
21 and I think the longest one went 2.7 million cycles.

22 Q All right. And --

23 (Video played.)

24 MR. LoCOCO: Okay. Stop it again.

25 BY MR. LoCOCO:

1 Q So we see the steel plate under this weight going up and
2 down. What's being tested there?

3 A The steel plate, oh, well --

4 Q Under the weight.

5 A Right. So this plate here, that's the operator compartment
6 floor. So as you see it go, you see the tractor frame, this
7 piece is getting a hard shock. The operator floor, not all
8 of that force gets through the operator floor. That's one of
9 the innovations that was a primary component of the 4250
10 project is this isolation of the floor. So that floor shock
11 loads get attenuated, they get dampened out. They don't all
12 get through to the operator. So that piece that you're
13 asking about is the operator floor. That's where the
14 operator would stand. There would be a pad there, a lot of
15 other niceties, but.

16 Q So the jury's heard the term "floating floor." Is that this
17 feature?

18 A Yes, this is the floating floor feature. That's right.

19 Q What was the design purpose for the floating floor?

20 A This kind of truck, the standup counterbalance truck, is used
21 very frequently for loading over-the-road trailers. Right?
22 And over-the-road trailers are going to be different heights.
23 The building is a fixed height. When an over-the-road
24 trailer backs up to the building, there's transition plates
25 that you can put between the building and the trailer called

1 dock plates. Right? It can be at an upward angle, downward
2 angle, straight ahead. Any time you enter a truck to --
3 every time you enter or exit the truck when you're unloading
4 a trailer, you're hitting these dock plates that's causing
5 this kind of shock to the truck and to the operator on an
6 older truck.

7 Q And so what was the purpose of this floor?

8 A Operators don't like to feel all that all day long for eight
9 or ten hours, so the purpose of the floor is to try to cut
10 down the amount of force that's coming up from the ground and
11 actually getting to them so they're not as tired at the end
12 of the day.

13 Q Does the weight of individual operators affect the function
14 or operation of the floating floor? You know, 135-pound
15 operator versus a 220-pound operator?

16 A Right. Not that much. That's part of the thing that makes
17 our design unique as well. There's other competitive designs
18 out there, but you need to make adjustments depending upon
19 the weight of the operator. Part of what makes ours unique
20 is that floor that you're seeing moving up and down is also a
21 very large counterweight. It's very heavy so that when you
22 add the operator's weight to it, when they stand on it, their
23 weight doesn't contribute very much to the entire system, so
24 that's that attenuation. Pretty much the same thing
25 regardless of whether the operator's a small person or a big

1 person.

2 Q Okay.

3 A Without any adjustment required. That's the benefit.

4 Q Can you hit the lower left corner?

5 A Thank you.

6 Q Can we move to 542? Just blow up this, where it says

7 10:45 p.m. So was this another night driving sheet?

8 A Yes. Another night driving sheet from the project.

9 Q And this note here says "I did 6,000 bar hits." What does
10 that mean?

11 A That's how many of the -- on the rumble strip. I know
12 there's ten or 12 strips you go over every time you go down
13 one. So they -- clearly they've asked the operator to count
14 how many times they're hitting the bar each night, and
15 someone's adding all of that up so we can figure out for each
16 prototype truck how many times has it seen that kind of load.

17 Q Why is Raymond doing all of this testing?

18 A Well, on prototypes, you know, we do design work, we create
19 things electronically and computer models, but, you know,
20 it's not enough just to do the analytical work, not enough
21 just to create the model. You have to create the device and
22 then you have to close the loop. You have to do the
23 empirical testing. You've got to see if, yes, the stress
24 analysis was correct, or, no, something's breaking sooner
25 than we thought it was going to break. And we do all this

1 because we always find something in this prototype testing.
2 You know, the real world, you can only simulate so much. You
3 have to do real-world stuff and you'll find stuff that needs
4 to be adjusted. And we want to make sure we find as much of
5 that as we can on the prototypes before we let any customers,
6 drivers get on these trucks and drive them.

7 Q Is Raymond making changes to the design as a result of this
8 testing?

9 A Yes. Absolutely.

10 Q Then when the prototype testing is done in the lab, do you
11 just take those trucks and ship them out out to the field for
12 testing?

13 A No.

14 Q What happens next?

15 A Well, we throw those away because they don't really represent
16 prototypes, don't represent what's going to production.
17 Right? So we'll take the findings from that, create a big
18 list called a technical problem list. We address each of
19 those often with redesigns. We throw the prototypes away.
20 We scrap those and we build a whole new set of trucks. We
21 call those pilot trucks that are much closer to production
22 intent. Those are the ones that we're ultimately going to
23 test at customer sites. They've got the changes to the
24 design that came out of the in-house testing.

25 Q On the prototype testing that was run in the lab, did any of

1 the operators report falling out of the compartment or losing
2 their balance and falling out?

3 A No, they did not.

4 Q All right. How does Raymond go about then figuring out who
5 gets field test trucks?

6 A Well, you know, we've got a lot of customers we have good
7 relationships with. There's a lot of things we can do in our
8 own lab. There's some things that we can't do as well in our
9 lab as a customer's going to be able to do. So we can
10 simulate a lot of what customers do. We have a blast freezer
11 but it's not, you know, 50,000-square-foot blast freezer, so
12 we may go to a freezer site where the truck is going to be
13 saturated and driving around the freezer all day. We may go
14 to Arizona and, you know, site in the summer time that's very
15 hot that it's harder to simulate in upstate New York. We
16 might go to, on this product, like an animal-rendering plant
17 where the truck is going to be washed down with chemicals
18 every day to keep it clean. Not that we can't do the
19 wash-down, but we're just not going to be subjecting the
20 truck to the same kind of environmental things that a
21 customer will. And it's important to do it because we always
22 learn things from the other environments out in the real
23 world that, you know, you can't simulate perfectly in the
24 lab.

25 We also tend to look for customers that are

1 going to put -- that are going to work the trucks hard.

2 Right? They're going to put a lot of hours on that are going
3 to get multiple shifts of operators, so we can get lots of
4 different opinions and feedback from people.

5 Q And then how do you get feedback from the field testing? I
6 mean, do you have people there who are watching it, or how is
7 that done?

8 A A few different ways. So if a customer agrees to be a field
9 test site, we're essentially loaning them a truck for free
10 and asking them just to insert it into their fleet and use it
11 like they would any other truck that they use. But the
12 agreement is, we'd like to get a sheet back from you every
13 week on how the truck was used, did it have issues, did
14 anybody have any problems, error codes, how many hours did it
15 get. And then we'll go out, we'll -- the reliability
16 engineering group is who runs field tests. The reliability
17 engineer will go out every couple weeks to visit each of the
18 field test sites, talk to the operators, talk to the service
19 people, you know, talk to the trainers, talk to everybody
20 there that has something to do with the truck to get
21 feedback. And, you know, we'll stay and watch them too while
22 they're out there. We'll get that feedback ourselves by
23 watching.

24 Q As part of the field test work, do you also test the
25 training -- the informational materials, the manuals,

1 et cetera?

2 A Yes. So one of the -- we looked at the project process
3 before -- one of the requirements before you can go to field
4 trial is you have to have draft training material available,
5 and that's because we want to test the training material as
6 well as the truck. Right? So we'll go out to the field test
7 site. Whichever operators are going to be the ones using the
8 truck, they're going to get trained on this particular truck
9 with the new material and we're going to ask for feedback
10 there too.

11 Q Do the customers who do the field testing for you, do they
12 keep those trucks when the field test is done?

13 A They don't keep the trucks. They have to come back to us and
14 get destroyed as well. We'll usually bring them back and
15 we'll take them apart, because you can see a lot from an
16 assembled truck. But we'll take them apart, take the
17 bearings out. Are the bearings wearing too quickly? Are
18 there any cracks in welds that you can't see? So we'll kind
19 of do like a forensic analysis before we throw it away too to
20 really get down into the nitty-gritty of whether anything is
21 starting to fail.

22 Q So we talked about the seven phases of the design process.
23 How long does that process take from start to finish?

24 A It depends on the complexity of the project. You know, the
25 shortest project may be a year; the longest projects can be

1 three, four years long, if it's a complete clean sheet of
2 paper.

3 Q All right. During the design process, is the issue of safety
4 addressed?

5 A Throughout, yes.

6 Q What's the goal? What's Raymond's goal on the issue of
7 safety?

8 A Well, I guess a few things. And I'm one of the old guys now
9 who teaches the engineers what to think about when it comes
10 to these things when they're going into a project. So one of
11 the mantras I was taught from day one and that I pass on now
12 is you have to be thinking about safety every time you're
13 making a design decision. You have to think about, what are
14 the downstream effects of the decision I'm making? But
15 generally, the truck has to be safe. The truck has to be
16 able to perform its function, and as long as it's being used
17 the way the instructions say to use it, there shouldn't be
18 anything an operator can do with the truck to get injured.
19 So we're trying to make sure that before a truck goes out to
20 a field trial, that we've designed it to make sure that's
21 going to be the case.

22 Q All right. So I want to talk specifically about the
23 operator's compartment on the 4250. What did Raymond do to
24 address the -- or to minimize the risk of somebody hurting a
25 leg or a foot in that context?

1 A Okay. A lot of things. I mean, I think I would start with
2 the truck itself. The frame of the truck is a heavy steel
3 welded frame. I think five-eighths-thick skin, very thick
4 steel. The operator's surrounded on all six sides. And as
5 long as they're in that compartment, it won't deflect.
6 Doesn't matter what they run into. The truck is designed to
7 withstand extremely high forces without any deformation.

8 Q Let me stop you for a second. Okay. So you started with the
9 frame of the truck. When you say "the frame of the truck,"
10 what are we talking about?

11 A The orange part and then the black bumper part below the
12 orange part. But then again, there's an overhead guard,
13 there's steel underneath the floor, so there really --
14 there's steel on every side of the operator. And yes,
15 there's open areas as well, but in most of the environments
16 this truck goes into, there's really nothing that can come
17 into those open areas. So as long as they stay in there,
18 they're protected.

19 Q What's the next thing you did to assist the operator to stay
20 safe in the compartment?

21 A Well, then they have to be able to stay in there, so there's
22 a number of different things we do. I guess the first is the
23 floor pad. It's a nonslip Ergomat floor pad, kind of like
24 the ones you see at the checkout line at the grocery store,
25 where somebody's going to be standing all day long so it's

1 not as tiring to stand there. And it's a nonslip surface, so
2 they won't slide off of it.

3 And then they're surrounded with padding as
4 well. You can't see it so well in this picture, but there's
5 a back pad that they have that they can lean against. And
6 then there's wrap-arounds about both their hips as well that
7 they can lean left or right into to support themselves.
8 Those are also nonslip surfaces. There's an elbow pad they
9 can lean on. It's got different tiers for different height
10 operators, so a tall person can lean up high; a short person
11 is a little lower. And then there's a steering wheel.
12 That's also got a nonslip rubber grip on it. And the control
13 handle, those are the other points of contact.

14 So when the operator's in the truck, using it,
15 they've got two feet on the floor and a solid stance, they've
16 got their two hands on the control handles, and they've got
17 their backside leaned up against the pad or on the hip guard
18 or hip returns.

19 Q Anything about the floor? How is the floor --

20 A Yeah.

21 Q -- constructed to assist the operator?

22 A Right. So it's got the nonslip pad, but we also tip it. So
23 the back pad here, the floor is here, but then we tip the
24 floor up and we tip it towards the elbow pad as well. So
25 it's pretty subtle, but the operator, just by standing in the

1 truck, isn't standing perfectly upright. They're actually
2 leaned backwards into the back pad and into the truck toward
3 the elbow pad too. It encourages them to take up a stance
4 where they're using the pads, and then they use the pads to
5 help them stay inside. They use the feet and the hands to
6 help them stay inside. This is like a -- it's called a
7 five-point stance: One hand, two hands, two feet. And your
8 backside -- or six or seven, if they're using the elbow pad
9 or the hip return. And they can push themselves into things.
10 They can hold on there and that's how they stay inside the
11 truck.

12 I guess the next thing is then, what's the
13 truck going to be allowed to do? We have to program which
14 software, how fast is the truck going to be allowed to go,
15 how quickly is it going to be stopping, what kind of forces
16 will that apply to the operator when it accelerates, when it
17 decelerates, when it turns. And we tune those very carefully
18 so that the operator never has a force applied to them, no
19 matter what they can do with the truck that causes them to
20 have any balance issues, to have any part of them come out of
21 the truck.

22 Q Let me stop you there.

23 A Okay.

24 Q So the jury's heard that the maximum speed on a 4250 is
25 8 miles an hour.

1 A Right.

2 Q All right. Could you have designed -- could Raymond have --
3 could Raymond have designed the 4250 to go faster than
4 8 miles an hour?

5 A Sure.

6 Q Why didn't you?

7 A Because these trucks are going to be used in warehouses.
8 There's only, you know, so much room in warehouses.
9 Customers want to use most of their warehouse space for
10 product, not for big aisles and long stopping zones. So just
11 to operate practically indoors in a warehouse, you only have
12 so much room to stop the truck. If we wanted to go 20 miles
13 an hour, we could go 20 miles an hour, but we would need a
14 whole lot more distance to stop the truck because we're not
15 going to apply a greater force on the operator that would
16 cause them to come out. We're only going to have the same
17 amount of deceleration force, which means we need more space
18 to stop. So this is kind of practically about as fast as
19 this thing can go safely in a warehouse.

20 Q So could you -- kind of the flip side. Could the truck have
21 been designed to brake harder when you take your foot off the
22 deadman brake?

23 A It's an interesting question. Not really. You could put a
24 stronger brake on than what's on there. But the way the
25 truck stops when the brake is applied, there's two driven

1 wheels at the front of the truck, the brakes are on those
2 wheels. When the truck is braked, we use motor power to do
3 that, basically trying to turn the motor backwards to stop
4 the truck. If you try to do it harder, if you try -- it's
5 called torque. If you try to apply more torque to it to stop
6 faster, what actually happens is the tire locks up, and
7 instead of a rolling stop, you get a skid just like with your
8 car if you're hydroplaning or something. You can try to
9 apply more torque, but instead of getting a shorter stop, you
10 end up skidding and getting a longer stop. So it's
11 practically as strong as it can be, practically speaking.

12 Q All right. We talked about the deadman brake. We talked
13 about the compartment. How else is the operator -- how else
14 can the operator bring the truck to a stop or brake the
15 truck?

16 A So the primary way is the handle. You see -- if I can draw
17 on here. This is the control handle -- oh, it moved. That's
18 the control handle there. It's in the operator's right hand.
19 And it rotates, so you use your wrist to rotate it either
20 towards the back of the truck or towards the front of the
21 truck. You push or rotate it in the direction you want to
22 go. So if I want to go forks first, I rotate it this way.
23 If I want to go 50 percent speed, I rotate it 50 percent. If
24 I want to go 100 percent speed, I rotate it all the way. If
25 I want to slow down, I just rotate it back the other way.

1 And what the truck does, it says, how hard do
2 you want to slow down. That's proportional to how far you've
3 rotated it back. And it says, okay, I'm going to reverse the
4 polarity of the motor. Essentially the motor's spinning this
5 way to drive me forks first. I'm going to reverse the
6 polarity and use the motor itself as the brake to slow the
7 truck down, so that's the normal way of stopping. It's very,
8 very fine control that way.

9 Operators can stop the truck literally within
10 a half an inch of where they're trying to stop. That way,
11 it's very easy to control, very fine control, which is
12 important. Right? You're in narrow aisles. You don't have
13 a lot of extra room to maneuver. You can't be overshooting
14 where you're trying to put a load down by 3 inches or you're
15 going to drop the load out the back of the rack or something
16 like that.

17 Q So if you've got Amazon or FedEx Supply Chain or Pinnacle
18 Foods or, you know, Acme Bread Company, and they want to buy
19 a standup forklift, does Raymond sell them, you know,
20 basically the same way cars are? You go to a showroom and
21 you pick something out that's on the showroom floor?

22 A No, that's not how we do it.

23 Q What's the process in the lift truck industry?

24 A Pardon me. So we have dealers, which I guess is not unlike
25 automobiles, around the country, so Raymond doesn't actually

1 sell trucks to anybody. We have dealers around the country.
2 The dealers are the ones that are interface to the customer.
3 And they essentially -- the dealers go and they establish
4 relationships with customers. What is it you're trying to
5 accomplish in your warehouse? What kind of products might
6 you be interested in using? And between the dealer and the
7 customer, they'll figure out, well, you know, for my
8 warehouse, configured this way, I need, you know, this kind
9 of truck, I need it to lift this load, I need it to go this
10 fast.

11 And then, you know, probably 60, 70 percent of
12 our trucks are customized somehow for each customer because
13 of their particular way they're going to use it. Are they
14 going to put an attachment on the front, or do they have
15 different hazards in their environment that are, you know,
16 kind of odd or out of the norm, whether they may want to add
17 a different feature for something like that.

18 Q All right. Let's look at Exhibit 505.

19 A We don't build something unless a customer has ordered it and
20 it's very specifically configured.

21 Q So you build it to the order?

22 A Always, yes.

23 Q So we're looking at the first page of Exhibit 505. What is
24 this, Mr. Kerila?

25 A This is our features brochure.

1 Q And just generally, what is the features brochure?

2 A It's a document that Raymond created that we've instructed
3 dealers to give to customers when they're having this
4 conversation about what kind of truck they want and how they
5 want to configure it. It's got a bunch of information in it
6 on certain features that we feel is important for customers
7 to really understand how these features work, when these
8 features might be a good thing, when they might not be a good
9 thing. And in most cases, they're not necessarily going to
10 be a good thing because if they were, we would make them
11 standard features.

12 Q All right.

13 A So this brochure explains, hey, for your environment, you may
14 think -- for you, it's going to reduce the risk to your
15 operators to add this. You may think otherwise.

16 Q How does Raymond make sure that customers have been provided
17 with this brochure?

18 A We provide it to the dealers. The dealers provide it to the
19 customer. Oftentimes, dealers just make that part of the
20 quote so that they know that the customer's seen it. But
21 then Raymond makes sure through our order entry process -- so
22 when a dealer -- again, customers can't order directly from
23 us. They work through the dealer. When the dealer comes to
24 order a truck, there's a series of questions they have to
25 answer, and one of them is, has the customer received and

1 reviewed the features brochure? And if they haven't, we
2 won't build the truck. We'll call the dealer up and say,
3 "You've got to go back. You've got to give them the features
4 brochure and finish this conversation."

5 Q All right. Let's look at 505-12, and we blew up this
6 Operator Compartment Sensor System. All the way down, right
7 there. So the jury heard this term this morning during
8 Dr. Rhoades' testimony. Does Raymond offer a feature called
9 the Operator Compartment Sensor System?

10 A Yes, we do.

11 Q What is this feature?

12 A This is a training tool that we have. The way it works is --
13 you can't see it so well in the picture, but here there's a
14 set of laser beams, and here there's a set of receptors, and
15 the lasers are aimed at the receptors on the other side. And
16 the intent of this is for customers who have a desire to have
17 a reminder for operators of what their training is, about
18 staying inside the compartment, about getting into the
19 compartment in the first place in the right position, and
20 about staying there. So what this tool will do is give the
21 operator a reminder: Hey, you know, you broke this -- you
22 broke the beam. Get your foot back where it belongs. Get
23 your ankle back in where it belongs. It's a reminder to the
24 operator, sounds a tone, puts a message up on the display
25 that says "Remember your training."

1 Q And if the truck is moving when the operator breaks the beam,
2 what does the truck -- you said it sounds a tone, there's a
3 message. Does the truck do anything else?

4 A It sounds a tone, it puts a message on the operator display,
5 and then it limits the speed of the truck so the truck starts
6 to slow down.

7 Q Does it have the brake come on fast or hard?

8 A No, no. And if the operator, you know, sees a message and
9 brings their foot back in, it will remove the limit as well.
10 And -- but the brake doesn't come on hard. It starts to slow
11 the truck down, gives the operator a chance to fix the
12 problem.

13 Q The truck that was involved in Mrs. Anderson's accident, the
14 4250, was it sold with this feature?

15 A It was not.

16 Q All right. Did this truck, did the subject forklift -- was
17 it sold with any other features that were -- that were in the
18 brochure?

19 A It was, yes.

20 Q All right. Can we take a look at 503-15? So does this
21 photograph -- this is of a -- it's not the subject truck, but
22 it's one of the other ones that were at FedEx Supply Chain.
23 Does this photograph show one of the other features available
24 from Exhibit 505, the features brochure, that was on the
25 trucks at this facility?

1 A Yes. The raised operator backrest here is one of the other
2 features in the brochure.

3 Q So if we -- I'm not going to put it on the document camera,
4 but if we look at this photograph of the 4250, it doesn't
5 have that extended backrest?

6 A Correct.

7 Q What is this extended backrest? What does Raymond sell that
8 for?

9 A It's for a different kind of hazard. It's hard to explain
10 without a picture. But you see vertical posts here in this
11 picture. Right? The loads then are placed on horizontal
12 beams that span between those vertical posts. Most places,
13 that horizontal beam is about here. Right? So that the
14 truck, if it -- if the operator's not paying attention and
15 they back up too close to a rack, that beam will run into the
16 tractor frame. In some applications, and apparently in this
17 application, that beam might be up quite high. In that case,
18 that beam can come over the top of the tractor frame, the
19 standard tractor frame, and the operator can accidentally
20 back right up on the rack if the storage slot is empty. So
21 we have this optional feature, this raised operator backrest,
22 that will keep the truck from getting underneath the rack.

23 Q Now you mentioned early in your testimony that one of the
24 things that Raymond does is, it's aware of safety standards
25 that apply to the design of its forklifts?

1 A Yes.

2 Q What's the main standard that you all refer to?

3 A It's the ANSI B56.1 Standard.

4 Q And is it Raymond's goal to comply with the requirements of
5 that standard?

6 A Yes, it is.

7 Q All right. Getting back to the design process, as part of
8 that process, are there design reviews or safety design
9 reviews that are done during the process?

10 A Yes, both. Technical design reviews where we'll get a group
11 of engineers together, and we'll have at least three
12 different versions of those initial, intermediate, and final
13 ones. So initial technical design review, the engineer
14 responsible for a particular component or assembly is going
15 to get a group together. They'll do a presentation on, you
16 know, "I've got three, four different ideas of how to solve
17 it." We'll talk about which ideas have the most merit, how
18 might you go about testing that or analyzing it. They'll go
19 off and do some work, maybe build a prototype.

20 In intermediate review, what's the result of
21 the testing kind of thing. "I've narrowed it down to two
22 options." But, you know, trying to get a cross-sectional
23 group, different disciplines, more senior engineers, some of
24 their peers as well, to make sure that, you know, we're
25 getting a lot of different eyes on each design. It's not

1 just one person in a room designing anything by themselves.

2 So those are technical design reviews.

3 Q How about safety design reviews? What are those?

4 A Safety design reviews are a little bit more focused. They're
5 not just on a particular part or component. They're really
6 on the entire truck. So there's two primary -- we'll often
7 hold more than that, but there's two primary safety design
8 reviews. The initial one is done before the truck's allowed
9 to go to field trial, because we want to make sure before we
10 put a truck in customers' hands that we're comfortable as a
11 company that it's going to be safe to operate. And then the
12 final one is done before the truck's allowed to go to
13 production, because again, we usually learn things during
14 field trial that are going to change the design. And we'll
15 do testing, you know, to show the truck is safe in a lot of
16 different ways. Some of it's going to be compliance to
17 standards, that kind of thing. We'll do that testing on
18 prototypes for the initial safety review. After those trucks
19 have been destroyed, we'll repeat a lot of that testing for
20 the final safety review on production on ten trucks as well.

21 Q Who attends the final safety design review? And I don't need
22 names of people, but types of people.

23 A Right. Okay. It's a good cross-section. It's not just
24 engineering. It's a good cross-section of engineering.
25 There's going to be test and reliability engineers there.

1 There's going to be, you know, systems and software
2 engineers. There's going to be, you know, senior engineers
3 like me, people that have been around, that have seen a lot
4 of things, that can ask a lot of questions. There will be
5 marketing and sales people that know the market, that know
6 how customers are going to use the trucks. There will be --
7 somebody from legal will be there. Somebody from field
8 service will be there. Somebody from manufacturing
9 engineering will be there. It's not just the safety of the
10 operator. It's the safety of the people who are going to be
11 working on the truck. That's why field service is there, the
12 people who are going to be assembling the trucks. They have
13 to be around the truck. There will be somebody there from
14 training. The people who are making the training material
15 and the technical publications group will be there, because
16 we're going to review all that stuff. We're going to make
17 sure we've addressed all the hazards associated with the
18 truck through the design, through the training material,
19 through the instructions.

20 Q As part of the safety design review, is reference made to the
21 B56.1?

22 A Yes.

23 Q All right. As part of the design work, do you and other
24 engineers make visits to customers' facilities?

25 A We do at a number of different points. So in Phase 0, where

1 we're just trying to figure out what the project's going to
2 be, that's when it starts. What are customers doing with
3 trucks, where can we help them do something better, where do
4 we have an innovative idea that's going to make their job
5 easier, their life easier, and then how are they using the
6 existing products? If there's something they're using
7 similar, a competitive unit, are they, you know, carrying
8 4,000-pound loads, doing 30 cycles an hour, 60 cycles an
9 hour? Are they doing a lot of travel? Are they doing a lot
10 of lifts? Because we want to be able to simulate those
11 things when we come back and test our prototypes. So we'll
12 go out, we'll watch them, we'll take measurements, we'll take
13 videos so that we can come back and simulate what's going on
14 at the customer as well as we can in the lab when we're doing
15 prototype testing.

16 Q All right. I'm going to move on to something new, but I have
17 one kind of last question about this design process. Given
18 the whole process you've discussed, Phases 0 through VI, the
19 field testing, the lab testing, the prototype testing, can
20 you give the jury an estimate of how many hours were spent on
21 the design of the 4250?

22 A Oh, tens of thousands of hours. Between the engineers and
23 the testing and the driving and the field testing, certainly
24 tens of thousands of hours.

25 Q All right. In Raymond's design efforts, does Raymond take

1 into account the comfort of the operator?

2 A Yes.

3 Q Why do you do that?

4 A Well, the truck is -- by design, it's meant to be operated
5 standing for eight, ten hours at a time. That can be tiring,
6 that can be, you know, fatiguing over an entire shift, so.
7 And the 4250 in particular with the suspended floor is all
8 about operator comfort. Right? They're driving over dock
9 boards all day long. Can we limit how much of the force is
10 getting to the operator so at the end of their shift, they're
11 not tired, they're not fatigued, they're not, you know,
12 making bad decisions because they're exhausted. A safe -- or
13 a comfortable operator who's not fatigued is a safer
14 operator.

15 Q So does Raymond value comfort over safety?

16 A They're one and the same. They're inter -- you know, you
17 can't have one without the other, really.

18 Q The 4250 the jury's been hearing about, it's got an open-back
19 design. Why does it have an open back?

20 A Well, at the highest level, because that's the safest way to
21 design the truck. It's where the operator gets on and off
22 the truck, but it's very important because of the hazard of
23 tipping over the truck or having an off-dock accident. These
24 trucks are used a lot on docks. It's very important for the
25 operator to be able to get off the truck and away from that

1 danger as fast as they can, so that's why the safest
2 configuration is with an open back.

3 Q Does Raymond take into account concerns over operators
4 keeping their balance in the compartment?

5 A Absolutely. Yeah.

6 Q How do you do that?

7 A Well, a lot of the features that we talked about earlier.
8 Right? We put a lot of physical features in place to help
9 the operator maintain their position. We tune the speeds and
10 the decelerations and the forces on you in turning so that no
11 matter what you can do -- and we test the truck more extreme
12 in the lab than any customer's going to test it. Whatever
13 you can do with the truck, it's not going to apply a force to
14 you that's great enough to cause you to come outside the
15 compartment.

16 In addition, I forgot to mention earlier, just
17 the range of motion, how the steering wheel moves, how the
18 control handle moves, is such that your parts don't come out
19 of the truck either. Right? There's nothing an operator
20 needs to do with the truck in normal operation where they're
21 ever going to come outside the protective confines of the
22 compartment.

23 Q The jury's seen this Exhibit 157. So this is a topdown view.
24 The brake pedal is up here. Did Raymond design this pedal so
25 that it was only going to be operated by the right foot?

1 A No.

2 Q What was Raymond's design intent with this pedal here?

3 A So it's kind of an innovation in the way we do trucks. We
4 used to have a different design when we came out with this
5 back in the early '90s. It's called a dockstance-style
6 truck. What dockstance means to Raymond is there isn't one
7 particular stance that you have to be in. We don't want the
8 operator to be standing still in one place for eight or ten
9 hours. We want them to be able to move around. We want them
10 to find whatever stance is most comfortable for them for
11 whatever they're doing, which could be different going in one
12 direction than it is going in another direction. It could be
13 different from one operator to the next operator. The pedal
14 was designed very intentionally to allow customer -- or
15 operators to take a variety of stances, either between
16 operators or over their shift, so that they're not getting
17 tired, so that they're moving around, so that their legs
18 aren't getting tired. And so that ultimately as the shift
19 wears on, they're not as exhausted and hopefully making
20 better decisions.

21 Q If an operator is using his or her right foot on the pedal
22 and it does an emergency brake, the operator -- the truck
23 stops in X feet?

24 A Right.

25 Q At 8 miles an hour, how long will a truck take to stop if

1 you're going forks trailing?

2 A So full speed, full load, which on this truck is
3 5,000 pounds, or at least on the 4250 series is 5,000 pounds,
4 somewhere between roughly 12 or 13 feet.

5 Q All right. But if the operator is using his or her left foot
6 on the deadman pedal, it's going 8 miles an hour full speed,
7 full load, and takes a foot off the deadman pedal, using the
8 left foot, how long does it take for the truck to stop?

9 A The same. 12 to 13 feet roughly.

10 Q So no matter which foot you're using, it's the same stopping
11 distance?

12 A Correct. And it's not exactly 12, 13 feet. It's going to
13 depend on the floor conditions. Right? You know, that
14 concrete's a little different, whatever, but it's roughly 12
15 to 13 feet.

16 Q Now are you familiar with the Crown pedal design?

17 A Yes, I am.

18 Q All right. The switch that's under their right foot, does
19 that activate the same braking performance as you get with
20 the pedal that's under the left foot?

21 A No, it doesn't.

22 Q All right. So Dr. Meyer was here last week and he testified
23 that he wants brake pedals under both feet. My question is,
24 are you familiar with any standup lift truck that has two
25 brake pedals, one under each foot?

1 A Nobody has a design like that, no.

2 MR. LoCOCO: The -- could you pull up 512-13 --
3 or 503-13? That's 13. I gave you the wrong number. 3. Let's
4 try 3. There we go. No, the one you had just last.

5 BY MR. LoCOCO:

6 Q All right. So my drawer isn't working for some reason. Can
7 you show us where the steer tires are?

8 A The steered tire's here.

9 Q All right. And where is the drive -- at least one of the
10 drive tires?

11 A Right. So this is the left-side drive tire, and there's one
12 just like it on the opposite side of the truck, so
13 three-wheel truck.

14 Q Could you clear that now? All right. So the steer tires,
15 there's an opening for the steer tires. Why does Raymond
16 have that opening?

17 A For a number of reasons. Probably the first one is these
18 are -- these are solid tires. They're not like a car tire.
19 They're not inflated with air. They're solid. You can kind
20 of see it a little bit on this picture on the front tire.
21 They crack over time, they wear out over time, they start to
22 chunk over time, and parts of them will come off. So part of
23 the daily operator checklist, preoperational, is to check all
24 the tires out and see, are they going to have a bond failure,
25 where the bond of the tire to the hub comes off entirely, or

1 are they so chunked out that they're running the risk of
2 losing a steering tire while they're in the middle of a turn.

3 So the first reason for that cutout is the
4 operator needs to be able to look at that every day. They
5 need to be able to see the tires and make sure that they
6 don't need service. I think the second reason is, in case
7 they need service, you can see just the tires there, but
8 that's mounted on a set of bearings to take the steering
9 loads, that's -- you know, the whole assembly, probably
10 couple feet tall that goes up under the counterweight that's
11 in that back left corner. That's very tall. It's far too
12 tall to be able to jack a truck up that far to take that out
13 to service it. So in order to get the steer tire assembly
14 out to replace the steer tire, you'd need to have that cut
15 out so you can undo the bolts and rotate it out through that
16 hole to replace it.

17 And then I guess the third reason is for
18 stability, which is a little more subtle and a little harder
19 to explain. But it's a three-wheeled truck. There's two
20 wheels in the front, just this one in the back. We want that
21 tire to be as far back as possible, just like, you know, the
22 legs on your chair. You want to be as far out as possible to
23 have as steady a chair as you can. We want that tire as far
24 to the back of the truck as we can, because it increases the
25 backwards stability of the truck so it won't tip over

1 backwards. So that tire is actually so far back for
2 stability purposes that when it rotates, it comes out through
3 that opening a little bit, corners when it is turning. The
4 corners of that can come out through the opening a little
5 bit. That allows us to push the tire even further towards
6 the back of the truck and improve the stability.

7 Q Okay. How is an operator of the 4250 protected from the
8 steer tires?

9 A Well, the operator of course is on the right-hand side, the
10 opposite side in the compartment, and it's a solid steel wall
11 between them and the steer tire. There's no physical way for
12 them to make contact with any of the tires, actually.

13 Q As long as they stay in the compartment?

14 A As long as they stay in the compartment, correct.

15 Q All right. Mr. Kerila, do you have experience yourself with
16 driving forklifts including the 4250?

17 A A lot. Yes.

18 Q Are you certified as a forklift operator?

19 A Yes.

20 Q Have you personally observed the operation of the 4250?

21 A Many times, yes.

22 Q Does Raymond use the 4250 in its own facilities?

23 A Yes, we do.

24 Q All right. Let's pull up Exhibit 500, please. So when a
25 forklift is shipped out, does every truck get one of these,

1 what we see, Exhibit 500, the operator's manual?

2 A Yes, it does. Yep. Ships with every truck.

3 Q Can we go back to the last page? Does this photograph, which
4 is 503-15, indicate -- are you able to show the jury where
5 the manual is kept on this truck?

6 A Yep. There's a manual compartment here, this black thing
7 here. It's a plastic compartment. It's right inside the
8 truck. It's just behind the operator's cab. That's where
9 the manual is when the truck ships.

10 Q All right. If we could go back to 500-41. So what are we
11 looking at here from the operator's manual, Mr. Kerila?

12 A This is one page from the operator's daily checklist, their
13 preinspection checklist.

14 Q So what's the daily checklist? What's the intent of that?

15 A Well, the intent of it is to make sure that the truck is safe
16 to operate before you start operating it. You don't know
17 what happened the shift before you. You want to make sure
18 the truck operates properly before you get on it and start
19 doing things. So there's a couple of parts to it. The first
20 is, before the key's even turned on, you do things like the
21 tires inspection and inspect the chains, look at the forks,
22 make sure nothing's cracked.

23 Q Let me stop you there. Let's go to 500-39.

24 THE COURT: All right. I'm going to need to give
25 my court reporter and jury a break --

1 MR. LoCOCO: This is a good spot.

2 THE COURT: -- before you segue to the next
3 section. Or are you winding up with --

4 MR. LoCOCO: We've got a ten-minute video to show
5 right at the end, probably about ten minutes more of
6 questioning.

7 THE COURT: Ten minutes of questioning? Then why
8 don't we just go ahead and take a break right now. We'll
9 take -- we'll come back at 20 minutes to 3. We're in recess.

10 (Jury exits at 2:32 p.m.)

11 (Recess from 2:32 p.m. to 2:44 p.m.)

12 (Jury enters at 2:44 p.m.)

13 THE COURT: Please be seated. Thank you.

14 MR. LoCOCO: May I proceed, Your Honor?

15 THE COURT: You may.

16 MR. LoCOCO: Thank you.

17 BY MR. LoCOCO:

18 Q So we were looking at -- well, as long as this is up here,
19 let me ask you about this. What do we see here, Mr. Kerila?
20 This is from the operator's manual.

21 A Yeah, it's a picture in the operator's manual, but it's of
22 the main warning decal for the truck.

23 Q All right. Are you able to point the jury to where the decal
24 is on the truck?

25 A Sure. So you see there's a couple of black bars that go up

1 to hold up the overhead guard above the operator compartment
2 on the left-hand side. There's two bars that hold that up.

3 This is what's on the backside of the front bar, so it's
4 right where the operator's standing so they can read it.

5 Q All right. And then it's also reprinted in Exhibit 500?

6 A In the operator manual, yes.

7 Q All right. So let's go back to 39, Exhibit 500-39. So you
8 started talking about the daily check.

9 A Right.

10 Q This first section is called "Visual Inspection."

11 A Right.

12 Q What does that involve just generally?

13 A So again, this is done pre-shift, before you start using the
14 truck, and this first part before you even turn the key on.
15 Right? If you can find a problem with the truck before it's
16 got power to it, it's a safer way to find it. So does the
17 control handle return to neutral like it's supposed to? If
18 it's got a broken swing and doesn't return, you can figure
19 that out without having the truck turned on. So there's a
20 series of checks here like that, including looking at the
21 tires, looking for chunking or bond failures. That's in V-2,
22 Visual 2. So you go through these visual pieces with the key
23 off first and then you do an operational check to make sure
24 the truck is actually behaving the way it's supposed to
25 before you get going.

1 Q All right. I want to stop you there for a second. On the
2 visual check, you mention that the wheels and the tires are
3 supposed to be checked?

4 A Yes.

5 Q All right. Is that something that is required across the
6 industry, that, you know, all your competitors say check the
7 wheels and tires?

8 A Yes.

9 Q Is a daily check something that's required?

10 A It is required by OSHA, yeah.

11 Q All right. And the steer tire opening that we talked about,
12 is that on the Crown truck, the Nissan, the other trucks that
13 you may get asked about?

14 A It is. There are slightly different shapes, but the trucks
15 are all three-wheel trucks. They all have a steered wheel in
16 the back and the driven tires in the front and they all have
17 an opening for the same reasons that we have it.

18 Q Now you mentioned the truck frame, the steel part. Does
19 Raymond test to see how much force that steel can take?

20 A Yes.

21 Q How do you do that?

22 A We have a big hydraulic fixture, hydraulic rams that are like
23 the hydraulic cylinders you see maybe on a backhoe. Right?
24 That can apply very, very high forces. And we essentially
25 clamp the truck and then squeeze it with these hydraulic

1 rams. And we load it with two and a half times the weight of
2 the truck when the truck has got the largest battery and
3 carrying the full load. So it's around 45,000 pounds of
4 force applied to the back of the truck. And it's -- the
5 objective is to have no deformation. Right? So if an
6 operator runs into something with 45,000 pounds of force, the
7 truck's not going to bend at all.

8 Q Okay. The jury's heard the term "dockstance" from you today,
9 but they've also heard the term "sidestance."

10 A Mm-hmm.

11 Q At Raymond, is there a difference between sidestance and
12 dockstance?

13 A Yes, there is.

14 Q What's the difference?

15 A Sidestance is more straight 90 -- standing straight
16 90 degrees to the direction of travel, forks first or tractor
17 first. Sidestance is complete 90 degrees. Dockstance is a
18 Raymond thing. That says 90 degrees is fine, 45 degrees this
19 way is fine, 45 degrees that way is fine, a little bit
20 further this way is fine. As long as you're fully in the
21 compartment, you've got two feet on the floor, you've got one
22 of your feet on the pedal and not the other one, and you've
23 got -- you know, your two hands are safely on the controls,
24 you can take up a variety of stances. That's what dockstance
25 is. It's about allowing the operator to find the place

1 that's most comfortable for them.

2 Q Now looking again at this overhead of the Crown floor, we
3 talked about these upside down "U"s and the pedal. There's a
4 line down the middle here. What's that?

5 A It's a steel bar that sticks up out of the floor.

6 Q And have you operated this type of truck?

7 A I have.

8 Q All right. What does that steel bar do?

9 A The intent is to try to keep an operator from stepping on
10 both the sensor and the pedal with one foot.

11 Q All right.

12 A So it comes up under your -- the inside of your shoe, if
13 you've got flat feet anyway. If you've got a decent arch on
14 your shoe, you could straddle it.

15 Q So does that bar limit your ability to do more dockstance in
16 the Crown?

17 A It does. Right? You -- your feet are much more in one
18 position on the Crown. There's, you know, there's space
19 there to hit that bigger sensor where you can move your feet
20 around a little bit, but they're much more constrained on
21 that design than in dockstance design.

22 Q When someone's on the Raymond 4250 and, you know, they're
23 holding down the emergency brake, the brake pedal, and they
24 just go to get out while the truck is still moving, what does
25 the pedal do?

1 A The pedal is spring-loaded, so it pops up. In order to
2 activate the truck, you have to depress that spring, so if
3 you step out of the truck, the pedal pops up, the brake
4 applies, the truck comes to a stop.

5 Q With the same stopping distances that you talked about
6 before?

7 A Correct.

8 Q Let's say you've got this truck and you're going 5 miles an
9 hour and you don't have a load. How quickly does it stop?

10 A It's a lot quicker. It's probably 5 or 6 feet, because
11 velocity is squared to stopping distance, so as velocity
12 comes down, it's not linear, it comes down. Stopping
13 distance comes down faster.

14 Q But it's not 6 inches?

15 A No, it's probably 5 or 6 feet, again, depending upon the
16 floor conditions.

17 Q When the truck is sent out to a customer, in addition to the
18 operator's manual and the decals, is anything else sent to
19 the customer?

20 A Yes.

21 Q What else is sent?

22 A Well, it comes -- it's an innovation we came out with, I
23 don't know, 15, 16 years ago. Instead of just having a
24 visual operator manual, we've added a video version of it as
25 well. So it's got some of the -- doesn't have everything

1 that's in the manual, but it's got some of the key things for
2 the operator to understand. It's an insert in the manual
3 that you can watch or should need to watch to understand
4 what's in the content of the manual.

5 Q And what's the title of that video?

6 A It's called "Principles of Safe Operation."

7 MR. LoCOCO: All right. We'd like to show that,
8 Your Honor, at this point.

9 (Video played.)

10 BY MR. LoCOCO:

11 Q Just a few final questions, Mr. Kerila. We saw in the video
12 that there were some trucks like the 4250, and some where the
13 operator was standing in the sidestance, dockstance, but
14 others where they were standing either toward the forks or
15 away from the forks. What's the that stance called?

16 A That's a universal or fore-aft stance.

17 Q That's not what we have here?

18 A No, this truck doesn't have that stance.

19 Q And this video that we just saw is sent with these trucks --

20 A Yeah, lots of different kinds of trucks, that's right.

21 Q If the customer orders "Safety on the Move," are those
22 specific to the particular truck they're purchasing?

23 A Yeah, "Safety on the Move" is Raymond 's training material
24 that we've created if customers want to use our training
25 material. Those are model specific, so those will be

1 training operators just on the model that the customer wants
2 to.

3 MR. LoCOCO: All right. Just a moment, Your
4 Honor.

5 That's all I have. Thank you, Mr. Kerila.

6 THE WITNESS: You're welcome.

7 MR. WARSHAUER: May it please the Court.

8 If I can get the presenter, that would be great.

9 CROSS-EXAMINATION

10 BY MR. WARSHAUER:

11 Q Hey, Mr. Kerila.

12 A Hello.

13 Q Couple things here. You early in your testimony were talking
14 about the Raymond Corporation being in upstate New York,
15 being founded by George Raymond. The fact of the matter is,
16 it's a wholly owned subsidiary of one of the largest
17 industrial corporations in the world, isn't it?

18 MR. LoCOCO: Your Honor, can we approach, please?

19 THE COURT: Yep.

20 (Sidebar begins.)

21 MR. WARSHAUER: I did not name a company, Judge.

22 MR. LoCOCO: I didn't hear what you said.

23 MR. WARSHAUER: I did not name a company.

24 MR. LoCOCO: Your Honor, we had a motion in
25 limine on this not to get into -- it's irrelevant, the ownership

1 of the Raymond Corporation.

2 THE COURT: I don't remember granting that
3 motion. You were talking about in jury -- you were asking about
4 it in jury selection, shouldn't talk about that, it didn't come
5 up.

6 MR. LoCOCO: I don't recall you --

7 THE COURT: Okay. So he's talked about this
8 company in upstate New York, and -- but it's irrelevant that
9 it's a wholly owned subsidiary of Toyota. Why is that
10 irrelevant?

11 MR. LoCOCO: What is it relevant to? It's like
12 saying who owns General Motors, or some dealership of General
13 Motors? It's irrelevant. And I agree that the Court hadn't
14 ruled on that, but the Court had said if you were going to ask
15 about that, approach so we could argue about it.

16 THE COURT: Okay.

17 MR. LoCOCO: Well, that never happened.

18 MR. WARSHAUER: I did not ask if they were
19 related to Toyota. I said they described themselves as a
20 1,500-person mom-and-pop company in this little town in New
21 York. There's no question about that. Including the man's
22 name, George, as if it's a family company. All I said is, "The
23 reality is, you are a wholly owned subsidiary of one of the
24 largest industrial corporations in the world." That's it.
25 That's a true statement. He wanted to go into their history.

1 THE COURT: Yeah.

2 MR. WARSHAUER: He said, "Let's talk about the
3 history of the Raymond Corporation." You can't start that
4 history and not let me finish it. The finish of that history is
5 where you are today.

6 THE COURT: I think you opened it up. You're
7 moving on to your next question after that?

8 MR. WARSHAUER: I am.

9 MR. LoCOCO: I'm just -- I want to say something
10 on the record right now. If we're going to get into prior
11 accident reports, we're going to have to be heard on that. I
12 don't know what you intend to do on that, but we'll be back up
13 here, because that was a motion in limine, and it's significant
14 legal issues.

15 THE COURT: Okay. But you have this guy being
16 equal part steps in design and safety, which he says is every
17 step of the design, and then you went through the factor of once
18 it's out in the field, what do you do to follow up. And so, but
19 what you -- what you want to prevent him from doing is saying,
20 "Have you -- are you aware of any other incidences with where
21 somebody had their leg cut off?"

22 MR. LoCOCO: Yeah, because that's not a relevant
23 inquiry, Your Honor. To get into that, they have to establish
24 substantial similarity, because this case isn't about somebody
25 getting a leg cut off. This case is about somebody losing their

1 balance and falling out. At least that's their claim.

2 THE COURT: But this guy, if he's the safety --
3 if one of the things he's doing is evaluating safety at each
4 step and follow up with what's happening out in the field, and
5 you're saying that any -- that similar injuries or serious
6 injuries is not something that these engineers put on the chart
7 that he put out?

8 MR. LoCOCO: I'm saying that the law is very
9 clear as to what the plaintiff has to establish or any other
10 party has to establish to get into other substantially similar
11 incidents. You can't just generically talk about incidents. I
12 mean, that's just the law.

13 THE COURT: All right. I'll let you be heard on
14 that.

15 MR. LoCOCO: Thank you.

16 (Sidebar ends.)

17 BY MR. WARSHAUER:

18 Q Mr. Kerila, as I was saying, the fact of the matter is, it's
19 not a mom-and-pop corporation; the fact of the matter is, the
20 Raymond Corporation is owned by one of the largest industrial
21 conglomerates in the world. That's true, isn't it?

22 A I don't really know who owns the Raymond Corporation.

23 Q You told us you were a registered professional engineer?

24 A I'm a licensed professional engineer, yes.

25 Q That's not true either. You haven't been registered in the

1 state of New York since 2008 based on the Secretary of
2 State's records as of midnight last night. That's true,
3 isn't it?

4 A I'm licensed. Not registered presently.

5 Q Now your only job as an adult has been the Raymond
6 Corporation. It's all you know; right?

7 A For 30 years, yes, all I've done is design lift trucks.

8 Q When you were in college, this is where you went; right?

9 A It's one of the places I worked while I was in college.

10 Q So if you were to come and tell us that this company that
11 you've spent your entire adult life on was not interested in
12 safety, that would have made a pretty bad life to have lived,
13 wouldn't it?

14 A I wouldn't be working for the Raymond Corporation if they
15 weren't interested in safety.

16 Q You know, there's a lot of literature out there on balance
17 loss in forklift usage. The Raymond Corporation doesn't have
18 a library where it keeps such things, does it?

19 A I'm not aware of what you're talking about.

20 Q Well, for example, an analysis of standup forklift accidents
21 from the '70s to 2006, published in the International
22 Mechanical Engineering Congress and Exposition on November
23 the 11th through 17th in Denver, Colorado, you're not aware
24 that you have a copy of that, do you?

25 A Maybe. I don't know.

1 Q Or document called "Forensic Engineering Assessment of Safety
2 for Standup Forklifts," National Association of Forensic
3 Engineers, 308F/17 -- 713M. You don't know if you have a
4 copy of that either, do you?

5 A I don't know.

6 Q "Hazard Analysis and Risk Assessment for Operators of Standup
7 Forklifts," proceedings of the International Mechanical
8 Engineering Congress and Exposition presented in Boston,
9 Massachusetts. Do you know if you have a copy of that?

10 A I don't know. Sorry.

11 Q Well, how about this: "Failure Rate Studies and Design
12 Alternatives for Standup Forklift Trucks" presented to the
13 Masters Panel in order to get a master's thesis, the
14 University of Kentucky, by Mr. Jagarlamudi. Do you have a
15 copy of that?

16 A It doesn't ring a bell, no.

17 Q Well, you know all of those documents that I read talk about
18 the loss of balance in standup forklifts, but you've told me
19 you've never heard of that, losing your balance on standup
20 forklifts; is that right?

21 A I've never heard of a report of that from our testing during
22 the development of this truck, no.

23 Q You've told us that it is your goal to comply with the B56.1
24 Standards published by the ANSI and managed by the Industrial
25 Truck Standards Development Foundation. That is your goal;

1 right?

2 A Yes.

3 Q And you would agree that sections of that standard that say
4 "shall" are particularly your goal to comply with; right?

5 A Sure, yes.

6 Q The fact is that the Raymond Corporation and the Raymond
7 Corporation alone decides whether or not you have met that
8 goal of complying with B56.1. That's true, isn't it?

9 A I don't know who decides whether we've met it. It's our
10 objective to meet it. If we -- you know, if somebody, a
11 customer, say, gets an OSHA citation that says we haven't met
12 it, then ultimately OSHA would be the one to decide whether
13 we've met it or not.

14 Q But when a product leaves your door, when the subject
15 forklift left your factory --

16 A Right.

17 Q -- there's not been an outside company that came in and
18 certified it as compliant with B56.1. That's true, isn't it?

19 A That's true, yep.

20 Q There hadn't been a governmental agency that said your
21 forklift met the requirements of B56.1. That's true, isn't
22 it?

23 A That's true.

24 Q The person or entity that said your company's forklift that
25 was used by Mrs. Anderson on July the 29th of 2017 complied

1 with all of the standards of B56.1, was an employee of the
2 Raymond Corporation. That's true, isn't it?

3 MR. LoCOCO: I'm sorry. I missed the end of the
4 question.

5 BY MR. WARSHAUER:

6 Q The person who decided that it complied with the standards
7 was a Raymond employee. That's true, isn't it?

8 A That's part and parcel of what our safety review process is.
9 We go through the B56.1 Standard line by line in a group of
10 people and we discuss each line, and what have we done to
11 make sure the truck complies with each and every line of the
12 standard that's applicable to that kind of truck.

13 Q You don't hire any outside engineers, outside consulting
14 engineers to come in and say, "Hey, this forklift meets all
15 the standards." You just don't do that. That's not the
16 practice; correct?

17 A Correct. We've got decades of experience doing that. And
18 again, OSHA's the ultimate arbiter of that if they were to
19 decide we weren't compliant.

20 Q OSHA has not been to your factory for purposes of deciding
21 whether a 4250 --

22 A No.

23 Q -- is compliant or not; that's true?

24 A That's correct.

25 Q You spent some time with us today talking about the phases:

1 0, I, II, III, IV, V, VI?

2 A Yes.

3 Q If you wanted to test the reliability and suitability of a
4 floor pedal design that disconnected the power or applied the
5 brake when the operator's left foot or any foot went outside
6 the compartment, you would do it in Phases III or IV; right?

7 A I guess I don't understand. That's what our truck does
8 when -- if that's the foot you have on the pedal, when you
9 pick your foot up, that's what our truck does.

10 Q If you wanted to consider a new design of your brake
11 system --

12 A Yes.

13 Q -- the phase at which you would do it is III and IV; right?

14 A Well, no, it's every single phase is part of that --

15 Q Okay.

16 A -- process.

17 Q But in the six phases, I, II, III, IV, V, VI, including 07 --

18 A 06.

19 Q If we looked at all of the paperwork, we wouldn't find a
20 single line that said "Let's try two pedals"?

21 A If that's what the objective of the project was, you would,
22 yes.

23 Q I'm talking about the 4250, Mr. --

24 A No, we didn't look at two pedals on the 4250. That wasn't
25 part of the scope of the project.

1 Q The only thing you ever looked at on the 4250 was a single
2 pedal in the upper left-hand corner of the operator's
3 compartment. That's true, isn't it?

4 A Yeah. The deadman pedal design on the 4250 was a single
5 pedal. There's a lot of other things that were looked at in
6 the 4250 project, the suspended floor we talked about
7 earlier, other things as well.

8 Q You never considered a sensor in the backrest either, did
9 you?

10 A No.

11 Q And I believe you've told me on prior occasions, and as we've
12 heard from other witnesses, particularly Dr. Rhoades this
13 morning, leaning against the backrest is an operating
14 position, isn't it?

15 A Is an operating position? Yes.

16 Q Two feet on the floor is an operating position also; correct?

17 A It's part of an operating position. I guess I don't
18 understand what you're asking.

19 Q Let's go back to the phases. Tell me about the eighth phase,
20 where you gather accident data, accident reports, and use
21 them to see how people are being injured once that product's
22 out there for a couple of years or three years. Tell me
23 about that phase.

24 A Right. It's not -- there's not an eighth phase in the
25 development process. But we have a process whereby our

1 dealers, who have got the relationship with the customer, who
2 have that rapport with the customer -- when they find out
3 there's been an accident with the truck, we have a form that
4 we have them fill out. They try to get as much data about
5 the accident as they can from the customer, and they send
6 that in to let us know that there's been an accident.

7 Q Well, 0, Roman numeral I, II, III, IV, V, VI, those are
8 design processes; right? Part of the design phase?

9 A Design, production, and audit, yeah.

10 Q But what you have told me on other occasions is that you
11 gather these accident reports, not for design, but for early
12 warning of litigation?

13 A That's one of the reasons, yes.

14 Q In fact, these accident reports don't come to you in your
15 role as someone interested in safety; they go to the general
16 counsel's office. That's true, isn't it?

17 A They go there first, and then some of them will come to me.

18 Q Yeah. Where a non-engineer decides whether or not it's an
19 engineering issue and may or may not send it to you; correct?

20 A They'll look at it and decide if it's something that might be
21 an indication of a quality issue or a reliability issue or
22 something wearing out sooner, or if there's, you know, an
23 indication that there might be a hazard that we haven't
24 accounted for in the design of the truck. And those have
25 come right to me and I'll get, "Hey, can you read this? Can

1 you tell me, does this look like -- does this look like a
2 hazard you guys accounted for? Is this something we need to
3 go back and reconsider?"

4 Q Mr. Kerila, I mean on multiple occasions, you have told me
5 accident reports go to general counsel's office for early
6 warning of litigation. That's what you've told me; right?
7 That's the primary purpose of collecting them?

8 A No. That's one of the purposes of collecting them. And then
9 the other purposes are what I just explained to the jury.

10 Q Now once they get there, nobody tabulates them, nobody says,
11 "This is how many left-leg amputations we have. This is how
12 many pinched fingers we have." That's true, isn't it?

13 A I don't think that that happens. The reports we get are what
14 customers are willing to share with us, so they're not a
15 complete picture of what happened in that particular
16 accident. There's certainly not a complete picture of what's
17 happening in the entire industry of -- or of the entire
18 environment of where the trucks are used. So they really
19 don't often have the kind of details you're talking about
20 that would allow you to sort them if you wanted to. But the
21 important thing really, Mr. Warshauer, is that we're
22 considering the hazards that may have led to those accidents,
23 and that the design accounts for the hazards and that the
24 training accounts for those hazards.

25 Q Tell you what. See if we can have a deal. If I ask you a

1 yes-or-no question, if you answer yes or no, I'll let you
2 prod along about anything you want. Does that sound fair?

3 MR. LoCOCO: Objection to the form, Your Honor.
4 It's argumentative.

5 THE COURT: Sustained.

6 BY MR. WARSHAUER:

7 Q Yes or no: You do not tabulate the injuries that come into
8 the general counsel's office, do you?

9 A No, I don't think they do.

10 Q Okay. Yes or no: You do not have all of the accident
11 reports since the 4250 was first marketed for sale by use
12 like people -- for use by people like Mrs. Anderson in 2010?
13 You've destroyed lots of those, haven't you? That's true
14 too, isn't it?

15 A We have a record retention policy for accident reports, and
16 every other document that we have that we use in the
17 business, and yeah, I'm sure some of those reports are no
18 longer retained because of the record retention policy.

19 Q In fact, as we sit here right now, you can't tell me how many
20 left-leg amputation injuries have been suffered by users of
21 4250s, can you?

22 A I don't think anyone can tell you that. We've talked about
23 that before. I can explain it, if you'd like, to the jury.

24 Q You can't tell me what the most common injury is on a 4250,
25 can you?

1 A No, I don't think anyone can. So the challenge here is that
2 there is no entity, there's no government entity. It's not
3 like, you know, an automotive or an airplane accident.
4 There's nobody gathering information on what happens with
5 forklifts. Forklifts are used inside customer warehouses.
6 We learn what we can when an accident occurs, what the
7 customer tells our dealer, is willing to tell our dealer.
8 There's no way to get the entire picture of everything that's
9 happening inside warehouses, so there's no way to get the
10 information to answer the question you're asking.

11 Q As you sit here today, in this courthouse in East Saint
12 Louis, Illinois --

13 A Yes.

14 Q -- you can't even tell me how many people have been run over
15 by your machine after they fell out of it, can you?

16 A I don't think anyone can tell you that. I can tell you I
17 haven't heard about it before.

18 Q But what you can tell me is that you haven't reached out to
19 the major users of your product in a systemized, organized
20 fashion to ask them, "Amazon, how many loss-of-balance
21 amputation cases do you have?" Lowe's, Home Depot, FedEx.
22 You've never done that in a systemized fashion, have you?

23 A No. That is what we do. That's what our accident reporting
24 process is. Our dealers -- Raymond doesn't interact directly
25 with customers. That's what our dealers do. They develop

1 that relationship, that rapport, and that's our process for
2 getting information on accidents. Customers -- some will
3 share, you know, a lot of detail; others less. I'm confident
4 that the big customers, the long-term customers, the Amazons
5 and FedExes, they're not shy customers. They're very, very
6 willing to call the dealer and say "I've got a problem with
7 this. I've got a problem with that. We, you know, want your
8 help doing this. I've got a service issue with that." Our
9 customers are not shy at all about reaching out and letting
10 us know what they're feeling.

11 Q Mr. Kerila, the question was and remains, you can't identify
12 a systematic practice, policy, and procedure where you are
13 actively reaching out to major users of your products and
14 saying to them, "How are people getting injured using our
15 4250?" That's the truth, isn't it?

16 A No, that's exactly what we do with our accident reporting,
17 and not just the major customers, any customer. Our dealers
18 have these relationships. If they find out about accidents,
19 we have a process for reporting that.

20 Q So the extent of your effort to find out how many injuries
21 associated with the loss of balance and being run over by the
22 unguarded steered wheel on a 4250 are gathering accident
23 reports, which you've told me before aren't reliable; is that
24 true?

25 A They can -- they can have, you know -- oftentimes when a

1 dealer tries to get information on an accident, they're not
2 allowed to talk to the person who's involved in the accident.
3 Maybe not even that person's supervisor. They have to talk
4 to a, you know, safety manager or a plant manager. So
5 usually the information is third-, fourth-hand. Sometimes
6 you can get a lot of detail out of those. Sometimes you
7 can't even get if somebody was injured, let alone how they
8 were injured, what led to it. That kind of detail is not
9 something you can always get from customers.

10 Q Identify for me a letter that you have sent to any major
11 user, somebody who owns more than five of your machines,
12 where you said, "Dear Director of -- whatever you are --
13 Safety, at Amazon, FedEx, UPS, et cetera, my name is Robert
14 Kerila. I'm interested in the safety of our products."

15 A Right.

16 Q "Please tell me about every injury that you've had so that I
17 can make good design decisions and protect people like
18 Mrs. Anderson." Tell me about those letters that you've
19 sent.

20 A Yeah. I haven't sent a letter that says that. But I think
21 we make good design decisions based upon making sure we know
22 what all the hazards are associated with using the truck.
23 Not the accidents resulted necessarily, but the hazards that
24 exist even before the truck has been designed, what hazards
25 are an operator going to encounter, and have we addressed

1 those hazards in the design, have we addressed them in the
2 training, have we addressed them in the testing.

3 THE COURT: Sir, your lawyer gets to ask you
4 questions. And I'm going to ask you to listen to the questions
5 that are asked and answer the question that's asked. If it's an
6 improper question, I'm sure Raymond's lawyer will object.

7 THE WITNESS: I'm sorry if I was.

8 THE COURT: But it's not fair if we have these
9 run-on answers that go well beyond the question that was asked.
10 Mr. LoCoco's going to get the opportunity to ask you questions
11 once this attorney's done cross-examining you. All right?

12 THE WITNESS: Yep.

13 THE COURT: Thank you.

14 BY MR. WARSHAUER:

15 Q On September the 25th of 2013, you were asked how many
16 left-leg amputations have been suffered by users of
17 sidestance forklifts, Raymond sidestance forklifts. That was
18 eight years ago. You didn't know the number then and you
19 don't know the number then now, do you?

20 A I don't have a memory of that question, no. I don't know.

21 Q You have talked about your design process, and you've told us
22 you have about 180 trained engineers -- or was it 200?

23 A It's about 200 degreed engineers now.

24 Q All right. What I'm interested in, Mr. Kerila, is a meeting
25 or a task force, documented by paper, where a group of these

1 engineers got together and had as their primary -- primary
2 goal, not one of multiple goals, but their primary goal, the
3 reduction or elimination of left-leg amputation injuries to
4 operators of sidestance forklifts. Can you identify a single
5 meeting where there's documentation?

6 A Not the way you've asked that, no. We don't just design for
7 one type of accident or injury.

8 Q Well, I'm here to ask about one type of accident or injury.
9 And I just want to know --

10 A Understood.

11 Q -- whether or not you can identify a time when you in your
12 role as a manager said to one of these 200 engineers, or any
13 two of them, "You two, y'all go figure out how we can reduce
14 or eliminate left-leg amputations." Have you ever done that?

15 A Not in those words, but that's -- I think that's encompassed
16 in the instructions when we start a project. We don't -- we
17 don't design for one accident. We don't design to protect
18 one part of an operator. That's not responsible.

19 Q It's pretty difficult for your engineers to focus on left-leg
20 amputation injuries for people who have lost their balance
21 and fallen out, if they don't know the number --

22 A Not at all. I disagree.

23 Q Your company has not directed your people, who are in the
24 Industrial Truck Association, to ask that organization to
25 create a task force to reduce the number of left-leg

1 amputations, has it?

2 A I don't -- I don't know.

3 Q You have representatives on the B56.1 committee, and your
4 company's employees who are members of that have not been
5 asked to suggest to that committee that it investigate how to
6 reduce or eliminate left-leg amputations, have you?

7 A What the B56.1 committee does is, again, not unlike Raymond,
8 we -- they worry about all the hazards, including left-leg
9 injuries for sure.

10 Q I just wanted to know if you had suggested to your member
11 who -- your employee who's a member that it say to the rest
12 of the group, "Hey guys, these left-leg amputations are a big
13 deal. Let's focus on it." And the fact is, you never told
14 anybody to do that, did you?

15 A No, not in those words. That's not that specific.

16 Q And when you get an accident report that goes to the legal
17 department, you don't have a practice, policy, procedure
18 where you reach out to the injured worker and say, "Hey, my
19 name's Robert Kerila. I'm trying to help Raymond make safe
20 products. Tell me how this happened so it doesn't happen
21 again." You haven't done that before the year 2014, have
22 you?

23 A Before the year 2014?

24 Q Yeah. This machine was sold in 2014. I just want to know if
25 you did it before 2014, where an accident report comes in and

1 somebody got their left leg cut off and you call them and
2 say, "Hey, what can we do to make this not happen again?"

3 A Well, I've investigated accidents. I've gone out in person
4 and talked to operators sometimes. I can't remember the
5 details of the accident or the injury necessarily, or whether
6 it was before 2014.

7 Q Mm-hmm. This product was first put out in about 2010; is
8 that right?

9 A Yes.

10 Q Well, we saw a video that was 8 minutes and 32 seconds, if I
11 recall correctly. You watched it with us; right?

12 A Yes.

13 Q Did you notice the copyright of that?

14 A 2005.

15 Q Yeah. That video didn't have a single image of this
16 forklift, did it?

17 A No. But it had --

18 Q In fact --

19 A -- images of standup counterbalance forklifts similar to this
20 one. But not this truck, no.

21 Q And it had lots of reach trucks too; right?

22 A Yes, it did.

23 Q A reach truck is of course the one that has outriggers out
24 front and has the ability to reach out?

25 A Correct.

1 Q When we saw people standing backs to the forks or facing the
2 forks, that wasn't the way that this forklift was designed to
3 be used; that's not the way the 4250's designed to be used,
4 is it?

5 A Correct. Those are reach truck pictures.

6 Q In fact, what this forklift says, it's designed to be used,
7 looking at the operator manual, which I believe to be
8 Exhibit 500, the operator compartment is where you stand to
9 operate the lift truck. Raymond Models 4150/4250
10 counterbalance lift trucks are manufactured with a sidestance
11 compartment. That's what it says; right?

12 A I believe it does, yes.

13 Q And you had some discussion about whether people use their --

14 A But it doesn't say you must stand sideways. Right?

15 Q You expect people to follow the operator's manual?

16 A Yeah, of course.

17 Q That is your goal, that people follow the operating manual?

18 A Yes, it doesn't -- what you read is just the description.
19 It's not an instruction.

20 Q Can you show me where in any advertisement, in any operator
21 manual, in any photograph anywhere, other than what
22 Dr. Rhoades showed -- shared with us this morning, where you
23 have an operator standing any other way than the right toe on
24 the brake?

25 A I -- maybe. I don't know. But they -- the manual doesn't

1 say to stand with your right foot on the brake. It says to
2 stand with one foot. I mean, it's much like every other
3 manufacturer, most manufacturers. It says stand on the pedal
4 with one foot. That's actually an OSHA instruction. The
5 point is not to have two feet on the pedal in case you need
6 to lift one up in an emergency and the other one's not still
7 holding it down. Doesn't matter which one, though.

8 Q You'll agree with me, all your marketing materials for the
9 4250 show operators in what could only fairly be described as
10 a sidestance with their toe on the pedal. That's true, isn't
11 it?

12 A I don't know. I don't think so. No.

13 Q And you'll agree with me that all of the operating -- the
14 marketing materials laud this idea of comfort, but never use
15 the word "safety," do they?

16 A I don't know.

17 Q Now you have had various outside entities involved in both
18 litigation and design; is that true?

19 A Yes.

20 Q For example, if we just consider design, there's a company in
21 upstate New York called Brownlie?

22 A Yes.

23 Q And your contact there is a man named Scott Ryan; is that
24 right?

25 A Scott Ryan, yes.

1 Q And Mr. Ryan is an ergonomics expert?

2 A Yes.

3 Q You never told this outside company that is helping you
4 design your product that left-leg amputation injuries were a
5 serious problem, did you?

6 A No, I don't -- I don't -- we told them -- when they helped us
7 design the compartment of the truck, we told them we want to
8 design a compartment that protects the operator, that's
9 comfortable, that has features in it to help the operator
10 stay within the compartment to protect themselves. We're not
11 just trying to design for a single accident. We're not just
12 trying to protect one part of an operator. It's -- that's an
13 irresponsible way to engineer a truck.

14 Q You never told Mr. Ryan at this outside entity that's helping
15 you make your products that loss of balance was something
16 that Raymond Corporation was concerned about for its
17 operators. You didn't tell them that, did you?

18 A No, because I'm not concerned about it. I've got no
19 indication that there is a loss of balance problem, because
20 we've designed the truck, we've designed the forces that the
21 operator can feel, no matter what they do, so that they're
22 not going to have a loss of balance.

23 Q Did you just tell me there's no -- no one's ever told you
24 they had a loss of balance as part of the explanation for
25 their amputation of their left foot? Is that what you just

1 said?

2 A The first time I've heard that was from you in a deposition,
3 sir.

4 Q You haven't seen that in lawsuits, multiple lawsuits, for
5 multiple people --

6 A Mm-mm.

7 Q -- who lost their balance?

8 A No, just from you.

9 Q You didn't see that in Mr. Hampton, Mr. Jones, Ms. Dezoete?

10 A No.

11 Q Mr. Vazquez?

12 MR. LoCOCO: Your Honor, can we approach, please?

13 THE COURT: Yeah.

14 (Sidebar begins.)

15 MR. LoCOCO: This is exactly what we raised with
16 our motions in limine. Dezoete was not a loss of balance. She
17 stepped out and Mr. Warshauer knows it. Now are we going to
18 really litigate each of these? And then we can tell the jury in
19 Dezoete, the jury found against Mr. Warshauer's claim? I don't
20 know what the other cases are he mentioned. We could do it with
21 Vazquez. We can do it with Young. None of those had to do with
22 loss of balance. Those were door cases, Your Honor. How much
23 more innuendo -- I'd ask you to cut Mr. Warshauer off at this
24 point. How much more innuendo are we going to --

25 THE COURT: You didn't object. As I'm listening

1 to the evidence, nobody at Raymond seems to know how many
2 instances in which an operator suffered a serious injury to the
3 left leg or an amputation. This guy -- it seems to me that,
4 when we get to it, people, they don't remember, or, "Oh, we
5 don't keep track of that." I think it's relevant to this guy's
6 testimony, because you put him forward to say that it's the
7 intent of Raymond to make sure their products are safe, to
8 comply with applicable standards, and that there's some
9 followup, that -- and so --

10 MR. LoCOCO: But he's saying things that are
11 untrue, Your Honor.

12 THE COURT: Okay.

13 MR. WARSHAUER: About what wasn't true?

14 MR. LoCOCO: That Dezoete had anything to do with
15 anything other than a door. He's got to prove it.

16 THE COURT: Hold on. Wait.

17 MR. WARSHAUER: She said she lost her balance,
18 Frank.

19 THE COURT: I don't know where we are in the
20 question. He can -- if he's saying there's different ways, he
21 hasn't asked the question, "Are you aware of anyone that has
22 suffered a leg amputation while operating a Raymond forklift?"
23 Whatever this model is, and then can inquire about that. If
24 Raymond's not on notice, if this is such a fluke, not aware of
25 these things, okay, that's important. Because that's a picture

1 that you're kind of trying to paint. But why don't we let
2 the -- why don't we let the jury go -- we'll let you guys
3 argue --

4 MR. WARSHAUER: That was my question. He said he
5 never heard of it. I impeached him with cases where people made
6 that allegation.

7 MR. LoCOCO: They're all cases where he came up
8 with the theory --

9 MR. MURPHY: But there's a rule of law that
10 covers this question. When you impeach a witness, now he has to
11 follow that through. It's not enough when you put this in front
12 of a witness, and he says, "No, I've never heard of any of
13 that --"

14 THE COURT: It has --

15 MR. MURPHY: Now he has to come in and prove
16 this.

17 MR. WARSHAUER: I asked a good faith question.
18 Basis for my question, which I do --

19 MR. MURPHY: Well, and he's saying it's not a
20 good faith question.

21 THE COURT: All right. I don't know the
22 evidence. You guys know these cases more than I do, other
23 instances. This is a case that I know about. The -- if he is
24 aware of other instances in which people suffered a catastrophic
25 loss of a limb in circumstances that are similar to this, where

1 an operator is in this kind of forklift and they lose their
2 balance or move forward of the operating -- I guess it would be
3 rearward --

4 MR. LoCOCO: Yeah.

5 THE COURT: -- of the operating compartment, and
6 this is what happens, that's not -- that's not irrelevant,
7 because he's -- because you're using this guy to bolster that,
8 this is the design, and they've done tens of thousands of hours
9 of examination, and they believe this is safe.

10 MR. LoCOCO: I think we should --

11 THE COURT: "And there's no way you can fall out
12 of this compartment, because we -- the way we designed it."

13 MR. LoCOCO: I think you should ask the question,
14 Your Honor, because you said it exactly the way it's okay, that
15 it's from losing your balance or falling out. He's mishmashing
16 all these other instances.

17 THE COURT: I think --

18 MR. LoCOCO: And then Pat's right. He's got --
19 Mr. Murphy said he's got to be able to prove the underlying
20 assumption he's trying to make. I'll just start making
21 objections.

22 THE COURT: Let's do this. This is important
23 enough that I don't want to handle it in just a sidebar, because
24 I might want to look at a case or two. So I'm going to -- I'm
25 going to let the jury take a ten-minute break and we can argue.

1 Will it be longer than ten minutes to argue this?

2 MR. LoCOCO: I would hope not.

3 THE JURY: Trying to finish him today; right?

4 MR. WARSHAUER: I would like to.

5 THE COURT: I understand.

6 (Sidebar ends.)

7 THE COURT: Folks, we have some -- a matter that
8 I have to take up. And so I'm going to give you -- let's do a
9 ten-minute recess. I hope we'll certainly -- we'll try to
10 get -- finish with this witness today. But let's take -- let's
11 come back at ten minutes to 4 and hopefully we'll be able to get
12 it wrapped up soon. Thank you.

13 (Jury exits at 3:41 p.m.)

14 MR. LoCOCO: Should the witness step down?

15 THE COURT: Yes, please.

16 Hannah, do you need a break?

17 THE COURT REPORTER: I'm okay. Thank you.

18 THE COURT: All right. Let the record reflect
19 that the jury is out of the courtroom. The witness has left the
20 courtroom.

21 The question is about asking about other injuries
22 or other instances. It's my understanding this is not the only
23 case that Mr. Warshauer has had against the Raymond Corporation,
24 so he may be aware of some. I have no idea how many this
25 witness may not be aware of. Mr. Warshauer asked a question

1 that he says he has a good faith basis in asking. There's an
2 objection. And it's asserted that he does not have a good faith
3 basis. It's actually bad faith.

4 So let's start with you, Mr. Warshauer. Why is
5 the line of questioning relevant, and what is the good faith
6 basis that you have in asking questions of this witness that
7 there are other similar cases where people have lost their left
8 leg?

9 MR. WARSHAUER: Thank you, Judge.

10 So the Court might recall that I sort of did a
11 two-step preface before I asked the question. And that is, "Are
12 you aware," and then I made sure that he said he was not aware
13 of anyone ever alleging that. I double-checked. So now I'm
14 impeaching him. It's not to prove the OSIs, other similar
15 instances, as much it is to simply impeach the fact that he's
16 never heard of it. Because the reality is, he has heard of it,
17 or his company has just got their head in the sand.

18 I asked, if I recall correctly, and the record
19 will reflect, about, "You haven't heard of Dezoete, Jones,
20 Pogue, Hampton or Vazquez." All right. Mr. Hampton, there's
21 videotape of him losing his balance. I don't think anybody
22 denies that. That case was resolved in a manner that
23 Mr. Hampton was satisfied with. Mr. Vazquez --

24 THE COURT: This is -- there's a video of the guy
25 operating a Raymond forklift, same model?

1 MR. WARSHAUER: It's a 4000. The operating
2 compartment is similar.

3 THE COURT: There's a video that shows him
4 falling out of --

5 MR. WARSHAUER: He partially falls out and before
6 he gets all the way out, it collides with a guardrail and
7 crushes his foot. But it's a balance incident and the
8 allegation in that case was it should have had two pedals. That
9 was part of the allegations.

10 MR. LoCOCO: It does not have -- he does not get
11 hit by the wheels. So it's not the same accidents. It's a
12 different model. It's a 4200 that doesn't have this floating
13 floor that's been talked about out. That's Hampton.

14 THE COURT: So what's the next one?

15 MR. WARSHAUER: It is the loss of balance and the
16 lack of a second pedal that we complained about. Mrs. Dezoete,
17 unquestionably we talked about the lack of a second pedal --

18 THE COURT: Let me ask, how old was the Hampton
19 case? You say this is a 4000 model. Did it come out 20 years
20 ago?

21 MR. WARSHAUER: No. All of these are 4000 models
22 to my recollection.

23 THE COURT: All right.

24 MR. WARSHAUER: And I'm virtually positive they
25 are. Dezoete was a woman in Dallas. We alleged that had it had

1 a left-foot pedal, she came in to park before lunch, she says
2 she lost her balance right at the very end by being distracted,
3 whether they believe it or not.

4 MR. LoCOCO: That's not what she said, though,
5 Your Honor.

6 MR. WARSHAUER: I believe that's exactly what she
7 said.

8 MR. LoCOCO: She said, "I stepped out because the
9 truck had come to a stop." And then we had -- we had videotape,
10 surveillance videotape from Amazon, that showed that her
11 testimony about what happened was not true. And I'm not calling
12 her a liar. She just had a different recollection. It showed
13 that she stepped out while the truck was still moving toward
14 this post, and she crushed her left foot between the back of the
15 forklift and the post. She never said she lost her balance.

16 MR. WARSHAUER: Our argument was that she lost
17 her balance. Ms. Pogue was run over by the wheel. Lost her
18 balance in a 4250.

19 THE COURT: All right. What about Pogue?

20 MR. LoCOCO: Pogue testified -- so if we're going
21 to do Pogue, Pogue testified to that. And her boss said right
22 after, as an excited utterance, she said "Angel --" name's
23 Aponte -- "Angel, I messed up. I stuck my foot out." So are we
24 going to read Ms. Pogue's testimony and Angel Aponte's?

25 And one other thing about Dezoete, she said her

1 vest -- her safety vest caught on another part. It's completely
2 different from this case.

3 Back to Pogue. We've got two versions. We've
4 got Mrs. Pogue's version after she's been represented by
5 Mr. Warshauer, saying that she lost her balance, and then Angel
6 Aponte, her trainer, testified that in the moment, pre-lawsuit,
7 she said, "I stuck my foot out. I shouldn't have done that."

8 MR. WARSHAUER: I've already mentioned
9 Mr. Hampton, and Mr. Vazquez unquestionably lost his balance.
10 Five witnesses talked about him losing his balance, struggling
11 to stay in. Again, Judge, I'm not going into the details of
12 these.

13 THE COURT: No, but, I mean, you ask a
14 question -- you're suggesting to this jury that this is the most
15 common injury that people suffer in operating a forklift. I
16 don't know where that comes from.

17 MR. WARSHAUER: We believe --

18 THE COURT: And I don't -- and are you prepared
19 to tell me where that comes from? Where do you know that, if
20 Raymond --

21 MR. WARSHAUER: Where do I know that left-leg
22 amputation injuries associated with balance loss? Now that's
23 the difference in opinion as to whether it's associated with
24 balance loss or intentional conduct. The manufacturers, as is
25 here, always say it's intentional conduct. The plaintiffs

1 almost always say they lost their balance.

2 THE COURT: My question to you was, you were
3 suggesting that this is the most common injury --

4 MR. WARSHAUER: The --

5 THE COURT: -- to operators of this forklift.

6 MR. WARSHAUER: There is published literature by
7 Tom Berry who have done an accident review. And the Crown
8 corporation, which does keep every accident report going back to
9 1974, their director of safety, Ron Griset, testified just three
10 weeks ago that the number one most common injury suffered by an
11 operator of a standup sidestance forklift -- which Crown makes
12 exclusively. So every one of their accidents is a sidestance,
13 as is a 4250. They are substantially similar in that, two feet
14 on the ground -- the only difference being the pedals and the
15 entry bar, which makes it less likely to get hurt. But he said
16 unquestionably, it's their belief that left-leg amputations are
17 the most common injury.

18 THE COURT: Let's talk about Raymond. Are you
19 going to be able to show that Raymond has received a number of
20 incident reports that put them on notice that there are people
21 who are falling out of the operating compartment and suffering
22 left-leg injuries?

23 MR. WARSHAUER: I think Jones, Pogue, Hampton,
24 Vazquez unquestionably, and to a lesser extent, Dezoete,
25 unquestionably establish that these folks have established the

1 lack of a left-foot pedal that would have stopped the machine
2 and the reason they got out was balance. Not one of those
3 people said they intentionally stepped in harm's way.

4 THE COURT: Isn't this witness -- he's
5 suggesting, "The way we've designed this, the way we fit the
6 operator like a glove, and the way the floor is, they're just --
7 there's no way you're going to be outside of the operator
8 compartment." There's not enough. As he said, it's designed so
9 that operators stay in and they don't experience any factors
10 that would cause them to lose their balance. All right? So
11 that opens up whether he's on notice or the design team's on
12 notice that there are things that are happening that are causing
13 people, A, to lose their balance, and B, so much so that they
14 exit the compartment and they lose their left leg by getting run
15 over.

16 MR. WARSHAUER: So I agree. Where we were
17 going --

18 THE COURT: This isn't a crash sequence. There's
19 a difference, I think, between the guy crashes against a fixed
20 object and his foot is in the way, as opposed to what we have
21 here, where the operator actually falls out and is run over or
22 impacted by the forklift in such a way that she suffers a leg
23 off.

24 MR. WARSHAUER: I agree and disagree
25 simultaneously.

1 THE COURT: Okay.

2 MR. WARSHAUER: They are all triggered by the --

3 THE COURT: I grant and deny sound the same way.

4 MR. WARSHAUER: They are all triggered by the
5 loss of balance. They are exacerbated and allowed to continue
6 by the lack of a compliance with 7.20.2, which would have
7 applied the brake. And then where they end up is really more of
8 a matter of happenstance. If you -- if the machine never hits
9 anything, it may well end up being a benign event. If the thing
10 hits something while you are struggling out, that's where the
11 crush injury occurs, if, as occurred here with Ms. Anderson and
12 Ms. Pogue, you can get under the wheel.

13 But the triggering things that make them similar
14 from our point of view is, loss of balance; machine that could
15 have been, should have stopped, had it been built like the rest
16 of the industry; a subsequent injury that resulted in an
17 amputation, always of the left leg. So I'm not going into the
18 details of any of these. But I do believe that when someone
19 says --

20 THE COURT: Because if you do, it sounds like --

21 MR. WARSHAUER: You've never heard of it, I get
22 to impeach them. That's the purpose of the question, was to
23 impeach them with the fact that how could they not have been
24 aware of that with these allegations.

25 THE COURT: All right.

1 MR. MURPHY: Judge, I'll just say one thing.

2 Case is Michaelson v. The United States, and it took me a while
3 because of my advanced years to bring that case up. And a good
4 faith basis in this case means that somebody lost their balance
5 and got under that steered wheel. And if he puts it in front of
6 the witness, then he has to prove that's the case, not some
7 other accident. That's all I want to say.

8 MR. LoCOCO: And --

9 THE COURT: All right. How much -- how much more
10 questions are we fighting over on this?

11 MR. WARSHAUER: That was the end of that. I've
12 already gone through the lack of accident report collection.
13 I'm finished with that.

14 My next series of question was, "You've produced
15 5,400 pages of documents in this case, and not a single one of
16 them uses the word 'balance.'" So we're moving on. Had he not
17 risen to the bait, if you will, I gave him two chances to say,
18 "Yeah, I may have heard of it." But when you give me an out and
19 out denial, I get a chance to do an out and out impeachment.

20 MR. LoCOCO: Not, Your Honor, when you can't
21 prove what you're trying to prove. You asked Mr. Warshauer,
22 "How are you going to prove this?" And he starts talking about
23 Tom Berry. Well, his experts have already been on the stand and
24 off. He's not having any of these other people testify. How is
25 he going to prove that Pogue or Dezoete or Hampton or Vazquez,

1 unless he puts himself on the stand, and --

2 THE COURT: I mean, I don't know what's in the
3 deposition necessarily or if he's deposed them in other cases.

4 MR. LoCOCO: Deposed this witness.

5 THE COURT: In other cases?

6 MR. LoCOCO: He has. I mean, there is a context
7 to all this, Your Honor. I mean, the context is, Mr. Warshauer
8 has been trying theory after theory, and now he's lighted on
9 malice. Right? And none of these accidents that he's talked to
10 you about -- Dezoete had nothing to do with balance, Vazquez,
11 Hampton, Jones, Pogue, and Anderson. That's how Mr. Warshauer
12 has constructed the cases. But what Mr. Kerila said is exactly
13 true. "Before you asked me about balance, no one's ever
14 complained about balance on our truck."

15 And the last comment is, the case law is clear,
16 that unless the incident about which he wishes to inquire is
17 substantially similar to this incident, same model of truck,
18 same type of facts, same type of injury, then he can't inquire.
19 And of course he doesn't want to get into the details of any of
20 this, because then his whole purpose for bringing it up falls
21 apart.

22 THE COURT: I do think if he's aware of instances
23 where operators claim that they lost their balance while
24 operating the forklift, and that in doing so, some or all of
25 them exited the operating compartment, that's similar enough

1 that I'm not going to give the jury an instruction to disregard
2 the last question and answer. But you haven't -- -- some of
3 those cases are not similar enough. Some of them are. And --
4 but the one thing that I'm hearing is that questions that
5 suggest that there's a massive number of leg-off cases that this
6 guy is aware of or that Raymond's aware of, that doesn't seem
7 like you can tie that up.

8 MR. LoCOCO: Mm-mm.

9 THE COURT: And I know you're saying, "Well, it's
10 because they destroy their records after five years." But if
11 it's not an infrequent situation, maybe the records from the
12 previous four and a half years would point you to at least one,
13 or one of these guys could have been deposed that said, "Yeah,
14 I've testified in 30 different cases that involve claims of
15 losing their balance and leg-off."

16 MR. WARSHAUER: The problem, Judge, is these
17 people refuse to even remember how many times they've testified.

18 THE COURT: I understand.

19 MR. LoCOCO: But I'm going to add for the record
20 that we produced 36 accident reports in discovery. A third and
21 40 percent deal with off-docks or tip-overs on 4250s. The
22 remaining appear to indicate some sort of leg or foot injury.
23 Not a one of them talk about a loss of balance, and that's why
24 he's not trying to use those.

25 MR. WARSHAUER: I believe if they were

1 investigated, every one of them would show loss of balance. I
2 don't think people intentionally stick their foot in harm's way.

3 THE COURT: He also testified that the accident
4 reports weren't necessarily prepared by Raymond, that they
5 weren't -- so it's not an admission against interest. The sum
6 of them are thorough; some of them are not. It sounds like it's
7 kind of hit or miss.

8 MR. LoCOCO: My point --

9 THE COURT: I think we need to move on. I think
10 we need to move on. I'm not going to -- I'm not going to give
11 an instruction to the jury to disregard the last question and
12 answer, but.

13 MR. WARSHAUER: We're moving on.

14 THE COURT: It doesn't seem like going into
15 greater detail, probably not going to dig a deeper hole than you
16 are. Or am I going to have problems? How much longer do you
17 have?

18 MR. WARSHAUER: I can't finish in ten minutes.

19 THE COURT: I didn't ask if you could finish in
20 10 minutes. I asked you --

21 MR. WARSHAUER: 15, maybe 10.

22 MR. MURPHY: Is it dark outside yet?

23 THE COURT: Let me go look out the window.

24 MR. WARSHAUER: We're getting -- I see. Yeah,
25 I'll probably finish in ten, Judge.

1 THE COURT: It's nice and sunny.

2 (Jury enters at 3:59 p.m.)

3 THE COURT: All right. Please be seated.

4 All right. Thank you for your patience again,
5 ladies and gentlemen. Sir, you are still under oath and we are
6 still in Plaintiff's cross-examination.

7 Next question.

8 BY MR. WARSHAUER:

9 Q This idea of keeping two feet on the floor, let me ask, is
10 there any time that an operator can operate this machine
11 without both feet on the floor?

12 A When they're applying the emergency brake, they can, yes.

13 Q Otherwise, they should have both feet on the floor, one of
14 those on the pedal, both hands on the controls, and their
15 entire body inside the confines of the compartment; correct?

16 A I didn't hear everything you said. I'm sorry. You're not
17 close to the microphone.

18 Q If they are not applying the emergency brake intentionally,
19 they should have both feet on the floor, one of those on the
20 pedal, both hands on the controls, and their entire body
21 inside the confines of the compartment. That's what you've
22 told me in the past, and you agree to that today; correct?

23 A That's correct. Yes.

24 Q I asked you about Brownlie. Those are your ergonomics
25 people. You've also asked Exponent to help you over the

1 years; is that right?

2 A Yes.

3 Q Exponent is a nationwide organization of all kinds of
4 engineers and experts; right?

5 A Yes.

6 Q You have never asked Exponent to help reduce left-leg
7 amputations associated with loss of balance, have you?

8 A No, not that specific phrase. No.

9 Q And we talked to Mr. Rogers yesterday. He's been with
10 various companies, some of which had 20 or 30 engineers at
11 various times. And you never asked him to help you solve a
12 problem or reduce the likelihood of a loss of balance leading
13 to a left-leg amputation, have you?

14 A Not that specific question, no.

15 Q And you agree with Dr. Rhoades that his role today was not to
16 give you an opinion about the safety of your product, but to
17 give you an opinion about the comfort of your product.
18 That's true, isn't it?

19 A Well, to analyze the data gathered with this new technology.
20 I'm not sure what Dr. Rhoades said. I wasn't here when he
21 testified.

22 Q But what Raymond has done, instead of asking any of these
23 folks for solutions, what Raymond has done on every single
24 occasion when there's been a left-leg amputation, regardless
25 of how they got there, is to say it was the operator's choice

1 to stick their foot into harm's way. That's true, isn't it?

2 A No, not at all.

3 Q Every time, you've said they failed to comply with their
4 training; right?

5 A No, not at all. No.

6 MR. WARSHAUER: Thank you.

7 THE WITNESS: Thank you.

8 MR. LoCOCO: Just a few things, Your Honor.

9 THE COURT: Mm-hmm.

10 MR. LoCOCO: Could I have the document camera,
11 please?

12 REDIRECT EXAMINATION

13 BY MR. LoCOCO:

14 Q Mr. Kerila, you were asked some questions about dockstance
15 versus sidestance. This is Exhibit 500, the operator's
16 manual. This is page 6. We see the representation of the
17 operator in that --

18 A Yes.

19 Q -- pictorial? Is the operator standing in complete sideways
20 in that?

21 A No, they're in a 45.

22 Q Page 15 of Exhibit 500. Again, does this show the operator
23 standing in a complete sidestance, 90 degrees to the forks?

24 A No, it doesn't.

25 Q Mr. Warshauer asked you about a number of cases right at

1 the -- before the last break. Those cases you mentioned are
2 all cases where he represented the plaintiff?

3 A I wasn't keeping track of everything he said. But probably,
4 I suppose.

5 Q The first time that you had ever heard that there was an
6 issue with balance in operating the 4250 was when you were
7 asked about it in a deposition by Mr. Warshauer --

8 MR. WARSHAUER: I object. Leading.

9 THE COURT: You can clean it up.

10 BY MR. LoCOCO:

11 Q When is the first time that you heard anyone complain about
12 balance as an issue on the 4250?

13 A In a deposition with Mr. Warshauer.

14 Q All right. Is Mrs. Anderson's case the first one you've ever
15 heard of where someone sustained a foot or leg amputation,
16 like getting caught in the steer tires?

17 A Yes, it is.

18 Q Mr. Kerila, are you aware that OSHA investigated
19 Mrs. Anderson's accident after it occurred?

20 MR. WARSHAUER: Your Honor, I object.

21 THE COURT: The reason is?

22 MR. LoCOCO: It's a foundational question. He
23 either knows or doesn't.

24 MR. WARSHAUER: We know where the next question
25 goes, which would be improper to seek hearsay. Not to mention

1 the 702 issue.

2 THE COURT: He was identified -- was not
3 identified as an expert witness. He was identified as someone
4 who was going to come in and talk about Raymond's process in
5 making the -- this product. So I think that it's beyond the --
6 it's beyond what he's entitled to talk about.

7 MR. LoCOCO: I was going to ask a factual
8 question. It's two questions. It's the foundation question,
9 and the second question --

10 THE COURT: All right. Ask it and if it's
11 improper, I'll instruct the jury to disregard it.

12 MR. LoCOCO: Okay.

13 BY MR. LoCOCO:

14 Q Are you aware that OSHA investigated this accident?

15 A Yes.

16 Q All right. Are you aware of whether OSHA found a citation or
17 a violation for failing to comply with B56.1?

18 MR. WARSHAUER: Your Honor, that's not what OSHA
19 does. It's a ridiculous question.

20 THE COURT: I -- sustained.

21 MR. LoCOCO: All right. Just a moment, Your
22 Honor.

23 BY MR. LoCOCO:

24 Q You were asked about studying the left-foot pedal versus a
25 right-foot pedal. Was the braking performance -- if Raymond

1 had had a left-foot pedal, would the braking performance have
2 been the same, no matter the pedal?

3 A We do have a left-foot pedal or a right-foot pedal and it is
4 the same.

5 Q Pedals under both feet as Mr. Warshauer --

6 A If they were both deadman pedals, then the braking would be
7 the same, yes.

8 MR. LoCOCO: All right. That's all I have, Your
9 Honor.

10 MR. WARSHAUER: Nothing further.

11 THE COURT: All right. Thank you.

12 All right, ladies and gentlemen. I'm going to
13 send the jury home for the day. Is there anything else we need
14 to tend to off the record -- I mean, out of the presence of the
15 jury?

16 MR. LoCOCO: I don't think so.

17 THE COURT: All right. Ladies and gentlemen,
18 thank you for your patience. We will be back here and start at
19 9 a.m. tomorrow morning. We are adjourned until tomorrow.

20 (Jury exits at 4:09 p.m.)

21 (Recess at 4:09 p.m.)
22
23
24
25

